FEBRUARY 1960

National SAFETY NEWS

The Machine Tool Field
. . A Changing Picture
Page 20

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National SAFETY NEWS

A NATIONAL SAFETY COUNCIL PUBLICATION

Vol. 81, No. 2 FEBRUARY 1960

EDITORIAL

4 Valentine Bouquets

FEATURE ARTICLES

12 No Monoxide Hazard in Tool Storage Cave

18 Apply Management Principles—*Russell DeReamer*

20 The Machine Tool Field—A Changing Picture—*John A. Dickinson*

22 Color Plus—*David Milne*

24 The Insurance Carrier Was Going to Cancel—*Charles Ferguson*

26 It's Part of the Contract—*Merrill D. Ely*

28 Plant with a Personality—*Tom Dodds*

31 New Safety Man (Diary of a Safety Engineer)—*Bill Andrews*

32 While the Guests Sleep

36 Chemical Safety References—*Data Sheet 486*

46 Complete Program for President's Conference

46 Payola—*Robert D. Gidel*

60 More Spring in Their Steps

64 Sharing Safety with our Families—*R. E. Buntain*

66 Mr. 1,000,000 Man-Hours Breaks Through—*Arthur R. Brauer*

DEPARTMENTS

8 Safety Valve

14 Wire from Washington

17 Accident Barometer

34 Ideas That Worked

40 Small Business and Associations

50 Coming Events

52 Around the Compass

56 Consultation Corner

58 Library

62 Off the Job

70 News Briefs

112 Employee Booklets

113 New Posters

117 Personals

145 New Products

152 Calendar Contest

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Chartered by the Congress of the United States

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THE COVER

THIS automatic machine tool has 54 stations—1 loading; 6 milling; 23 drilling, reaming, and counterboring; 2 tapping; 21 inspection; 1 unloading. It is not necessary for the operator to go near moving parts. (Link-Belt Company photo)

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EDITORIAL

Valentine Bouquets

THE LOVERS' festival will be celebrated again this month. Somehow it has become confused with the festival day of two saints named Valentine, but no one seems to mind. We like to give gifts, or think of giving gifts, to those we're especially fond of when St. Valentine's day rolls around.

Some of those we have a special fondness for are:

The steel executive who, very early in the safety movement, scrawled across a memo, "Expenses for this purpose will be approved," when he was asked to spend money for injury prevention.

The first man to see the significance of off-the-job injury prevention. Some industries reduced their frequency and severity to the point where it was practically impossible to drive it down any further. They move out beyond the plant confines to the home and to the road, and are still preventing suffering and loss.

The manufacturer who first provided ready-made personal protection. In NSC's historical files are descriptions of how to protect a workman's face from flying objects. "First, procure some stout copper screening, then take it to a harness shop, and have it fitted to the man's measure." From such crude beginnings personal protection has grown until the problem is now conformance to codes and employee education. The protection is there—all we need do is reach out for it.

The farsighted engineer who applied standardization to safety equipment. Without the concept of standardization, safety records would be in chaos. Perhaps the most prosaic, but at the same time the standard with the widest application, is the standard for ladders. The ladder buyer has a yardstick to use—he needn't guess.

The designer who made safety shoes attractive. Any safety manager who feels sorry for himself because he finds it hard to sell the idea of foot protection need only imagine what it would be like to persuade today's industrial employee to wear the early steel toe cap, with its bulky, bulbous profile.

The generous soul who conceived the concept of broader public service for the National Safety Council. From a safety association serving only its own members' needs, NSC became a truly national organization, with enormously increased prestige.

The public-spirited financier who first saw the need for a moral responsibility program within the National Safety Council. For many years President Emeritus Ned Dearborn had tried to interest someone in taking safety to the public by way of those quietly influential community leaders, the clergy.

This is only part of our Valentine list. In this work we love so well, there are hundreds who have made contributions that have earned our undying affection.

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Photographed at Steinhart Aquarium,
California Academy of Sciences, San Francisco

2

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THE SAFETY VALVE

Nothing human is alien to me

—TERENCE

SOMEBODY GOT US WRONG!

IF YOU'RE WELL KNOWN in the safety field, NSNEWS will print anything you write. If you're not, it's a waste of time to send anything.

Somebody is alleged to have made those remarks at a recent safety conference. Perhaps some do feel that way. We're sorry.

But other publications have had the same experience. Editors are supposed to be blinded by the brilliance of big names.

A by-line does have prestige value—when the author has something to say. But the subject matter and the way it is presented are far more important than the author's name and position.

My wife, who has taught singing for many years, always gets a thrill when she finds a good natural voice. An editor feels the same way when the morning mail brings a manuscript from some unknown writer who knows his stuff and knows how to tell it.

Of course, a name does count when the author is a recognized authority on the subject. An endorsement of accident prevention by a big shot will get more attention than a better piece of writing by a safety engineer or somebody at NSC headquarters.

When a clergyman urges regular church attendance, it's just what people expect. When the big businessman says the same thing, people take notice. If a man is prominent enough, his most trivial remarks may be copy for the press. But you can't run a publication on that kind of stuff.

Why do some articles fail to click?

Not because they lack literary perfection, as many people believe. Many a useful idea has never been submitted, because the author felt too self-conscious about his shortcomings as an author. Actually, polishing an article for publication is one of the easiest things an editor does. But if there isn't any meat in the manuscript, the editor can't supply it.

Most editors would agree that many articles don't make the grade because they contain too many generalizations on abstract themes. Keeping cliches out of a safety think-piece is one of the toughest of writing jobs.

Readers of NSC publications, on the whole, are pretty well sold on safety. Interpretations of the safety movement and arguments for greater effort have their place, but the bulk of emphasis should be on "how to." Readers are most interested in specific methods that have helped others in solving everyday problems.

There's a wealth of material of this kind in the experience of our members. Much of it comes out at National Safety Congresses and finds its way into print. Other stories are sent in voluntarily or at the request of staff members. For this help the editors are most grateful.

BEDSIDE MANNER—1100 A. D.

GUIDEBOOK for doctors alleged to have been written in Salerno, Italy, about 1100 contained this interesting advice for M.D.'s:

"When called, commend yourself to God and to the angel who guided Tobias. . . Learn as much as you can from the messenger so you may astonish the patient by your knowledge of the case. When you arrive, sit down, take a drink and speak of the beauty of the country and the house. . .

"Next, feel the patient's pulse, but remember that it may be affected by your arrival, or by the patient thinking of the cost of your visit. Tell the patient you will cure him, with God's help, but tell the friends that the case is very serious."

* * *

Medical science has made some big strides since then but that reference to the fee still applies.

MORE ABOUT EDUCATION

SUPPLEMENTING the piece about education in the S-V for January are these comments by John Ruskin:

Education does not mean teaching people what they do not know only. It means teaching them to behave as they do not behave. It is painful, continual and difficult work, to be done by kindness, by watching, by warning, by precept and by praise—but above all, by example.

AS OTHERS SEE US

BACK IN LONDON after a tour of the U.S.A., British Minister of Traffic Ernest Marples made this comment on American traffic control practices:

"It really is incredible how the American motorist observes the lane rules. He has to, or he soon hears about it from other motorists—as I was unfortunate enough to at one point."

STILL TRUE

THERE IS NO LIMIT to the interest which civilized nations have in each other's economic and political wisdom, for they all bear the consequences of each other's follies.—*William Graham Sumner, clergyman and educator.* (1879)

* * *

Said Elbert Hubbard: *Remember the week day to keep it holy.*

Carman Fish

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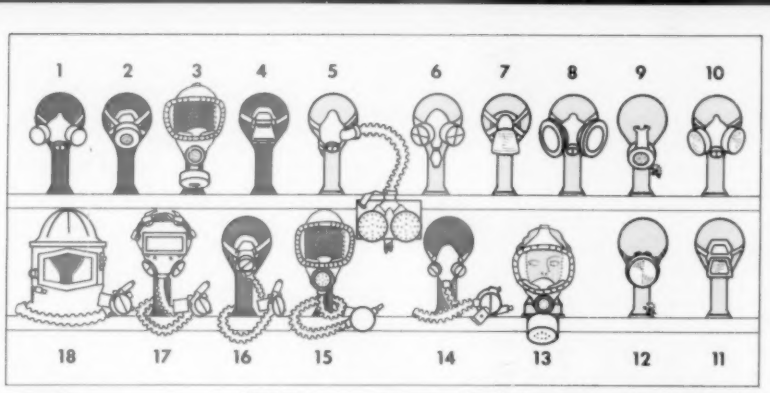

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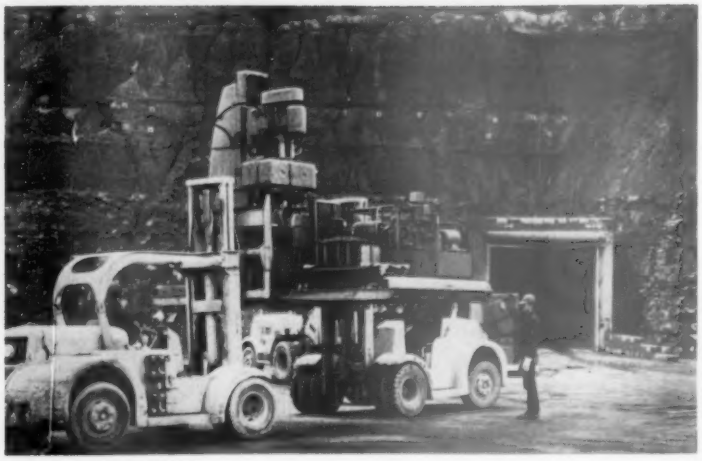

As many as 150 men at a time are working in this vast cave where several million dollars worth of machine tools are stored by the government. Workers are protected against exhaust fumes from fork trucks by catalytic exhaust purifiers. Here, a fork lift picks up machine tools brought in by highway truck.

No Monoxide Hazard In Tool-Storage Cave

BY FITTING its industrial trucks and gasoline sweepers with catalytic exhaust purifiers, Page Airways, Inc., Rochester, N. Y., has solved an exhaust-fume problem underground in the world's largest subterranean storage cave.

As contract-operator of the government's Atchison (Kan.) Ordnance Storage Facility, Page is responsible for maintaining and rehabilitating several million dollars worth of machine tools.

Arriving by truck, rail, and barge, these machine tools are ferried into and around the cave by gasoline-engine industrial trucks. Two gasoline-engine sweepers are also used for tidying up.

As many as 150 men may be working at a time in the 65-acre facility, which is completely temperature- and humidity-controlled.

Protection against accumulations of dangerous or irritating carbon monoxide or hydrocarbons from vehicle exhausts is assured by catalytic exhaust purifiers. These are reported to remove up to 95 per cent of exhaust contaminants by converting them to harmless carbon dioxide and water vapor.

With purifiers on the trucks, Page keeps CO content in the cave to 10 to 100 parts per million parts air (.001 to .010 per cent). This is well below the 200 parts per million specified for the cave operation by government safety regulations.

Formerly used for refrigerated food storage, the limestone mine was taken over from the Department of Agriculture by the United States Ordnance Corps in 1952 for storage and rehabilitation of tools brought in from deactivated war plants.

Many machine tools are delivered to dock facilities at the cave entrance by highway trucks. A large portion also arrives by river boat and rail, and must be picked up from dock facilities at a much lower level several hundred yards away.

Fork lift trucks handling the incoming machines had to be adaptable to combined indoor-outdoor operations, since 100 yards of their outdoor run is up a steep 11 per cent slope. Inside the cave trucks must make long, fast runs, ranging up to a half-mile or more.

At first there was no major fume problem. The cave ventilating system kept main passageways clear of CO. As activities were stepped up and additional vehicles added, build-up of carbon monoxide in certain cave areas and pockets became hazardous.

Normal ventilating problems were aggravated by the need to keep the mammoth cave at a constant level of 70 F., with relative humidity at 35 to 40 per cent. Fresh air brought in, as needed, is funneled through a specially built dehumidifier (reportedly the only one of its kind in the world) capable of removing one ton of moisture per hour, with a complete cave-air change every 30 minutes.

Several times a day checks are made on temperature, humidity, and CO content of air. Every 30 days, exhaust from each truck is checked with a CO tester, as shown here.

As a running check that men and equipment are properly safeguarded, temperature, humidity, and CO content of the air are checked several times a day at various points in the cave. One man does this as a full-time assignment.

To guard against hazards of CO buildup, each truck and sweeper is kept in fine operating condition in a large maintenance shop inside the cave. Every 30 days the exhaust of every truck is checked with a CO tester, and purifier units are replaced as necessary. Page estimates the purifiers' average life is 3,000 hours or more.

The units are installed on 12 vehicles—six 15,000-lb. units, two 10,000-lb. trucks, two 6000-lb. vehicles, and two power sweepers, all burning unleaded gas.

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"We always keep Go-Jo Cream Hand Cleaner on our shelves." . . . Scott Dixon, Storekeeper. (It's used in practically every department!)

"We get our hands plenty grubby in the tin shop, but with Go-Jo Creme Hand Cleaner we're ready to sit down to lunch in half a minute." . . . Harold Shriner, Tinsmith.

"Go-Jo Creme Hand Cleaner removes paint and leaves the hands feeling smooth and comfortable, not itchy or burning." . . . Earl D. Beck, Painter.

* Designers and manufacturers of corrugated and folding containers.

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WIRE FROM WASHINGTON

By HARRY N. ROSENFIELD Washington Counsel, National Safety Council

This report is an information service. Publication does not imply National Safety Council approval of or opposition to any legislation mentioned

SAFETY became an immediate issue in the second session of the 86th Congress, which convened under the shadow of the forthcoming presidential election campaign.

Industrial Safety. At the opening of Congress, the Senate majority leader issued a list of bills likely to be on the majority party's agenda for action this year. In this list he included mine safety legislation.

The U. S. Department of Labor's Bureau of Labor Statistics announced that the all-manufacturing injury frequency rate for the first nine months of 1959 was 13.4 per million man-hours worked, the highest since 1953. The rate was a 14 per cent increase above the third-quarter rate of 1958.

Of the 138 individual industries covered in the report, 8 showed rate decreases of 1 full point or more; 74 reported increases of 1 full point or more; and 56 industries showed little change between 1958 and 1959. Increases of more than 5 full points were recorded by 11 industries.

The Joint Congressional Committee on Atomic Energy announced its series of public hearings. These will include the subject of radiation standards to be taken up in late spring.

The Atomic Energy Commission scheduled a hearing against one of its mining and milling licensees, cited for failure to comply with the AEC's regulations for protecting employees against radiation through proper radioactivity surveys.

The Bureau of Mines issued in final form its regulations prescribing procedures for testing and approving fire-resistant hydraulic fluids.

Traffic Safety. Congressman Kenneth A. Roberts, chairman of the Subcommittee on Health and Safety of the House Committee on Interstate and Foreign Commerce, outlined his views and plans:

"It is apparent that persuasion is not enough," he said. "Something more than logic is needed. . . . We are not going to stop this needless slaughter with slogans. . . . In view of the record, can we afford to wait for the states to do this?"

His own answer was: "It was with the greatest reluctance that I came to the conclusion that we needed" federal legislation.

Mr. Roberts outlined "major things I think we must do, and soon, to reduce the traffic toll":

1. We must have legislation to establish minimum safety standards for passenger-carrying motor vehicles bought for government use.

2. More emphasis must be placed on driver education, to combat lawlessness which contributes to juvenile delinquency and to reduce the accident toll in the age bracket where casualties are heaviest.

—To page 132

THE MONTH IN WASHINGTON

- Joint Congressional Committee on Atomic Energy announces public hearings on radiation standards.
- Bureau of Mines issues regulations on procedures for testing and approving fire-resistant hydraulic fluids.
- Aviation Subcommittee of Senate Committee on Interstate and Foreign Commerce holds hearings on 1959 civil aviation safety record. Sen. A. S. M. Monroney, federal aviation administrator, and Civil Aeronautics Board express concern. CAB suggests emphasis on safety fundamentals in day-to-day airline operation.
- FAA puts safety inspectors on round-the-clock examination of scheduled air carrier training programs and flight operations, especially in monitoring jetliner speed control. FAA also declares rule requiring most commercial airliners to be equipped in two years with airborne weather radar.
- Interstate Commerce Commission will investigate carriers allowing drivers to work when tired and for longer than ICC rules permit.

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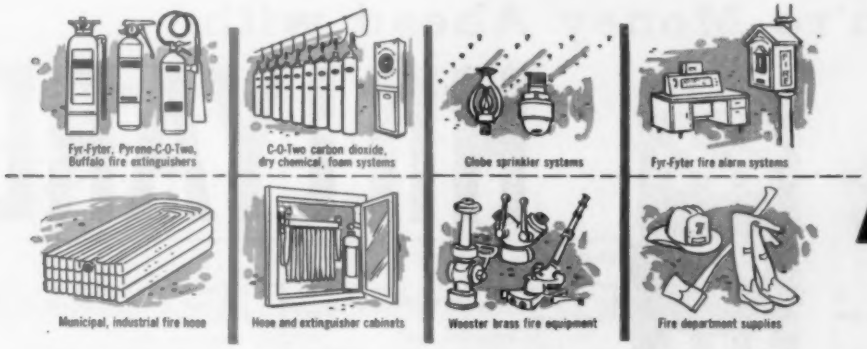
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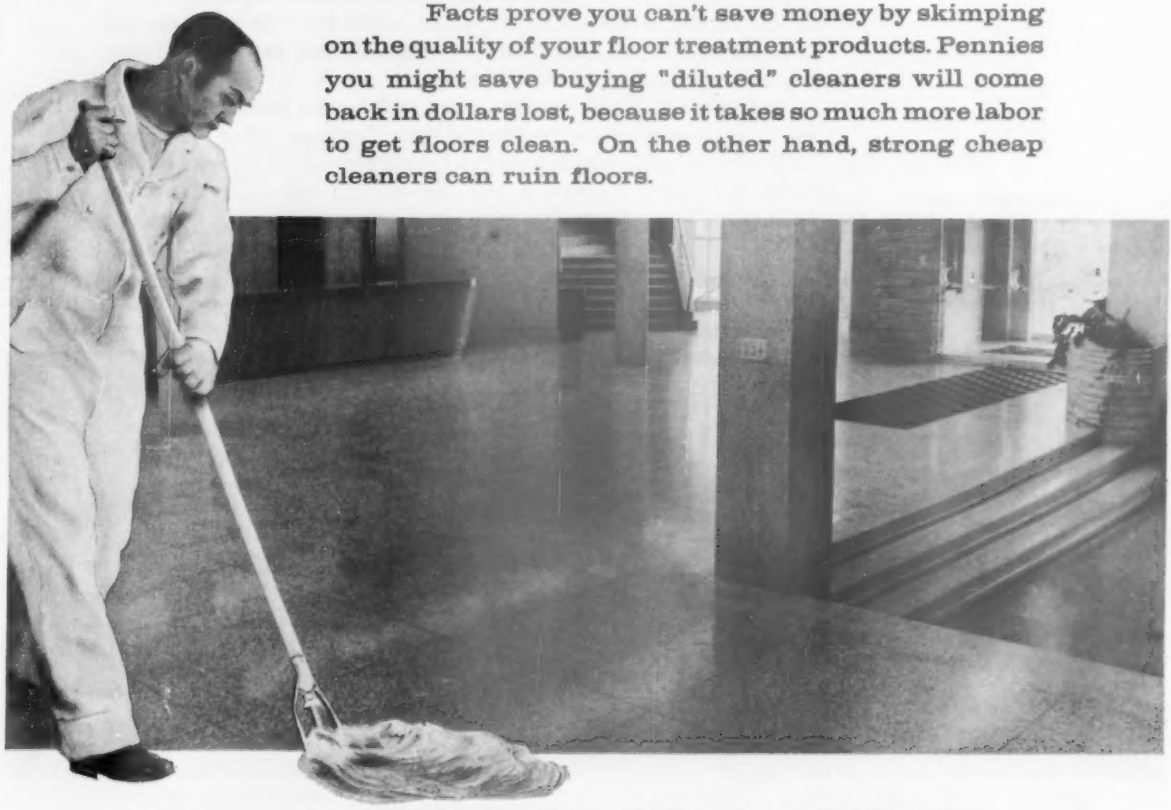

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THE ACCIDENT BAROMETER

Prepared by the Statistics Division,

National Safety Council

ACCIDENTAL DEATHS in October totalled 7,300, or 5 per cent below 1958. Most of the reduction occurred in motor-vehicle, but deaths from home, public non-motor-vehicle, and work accidents also were fewer.

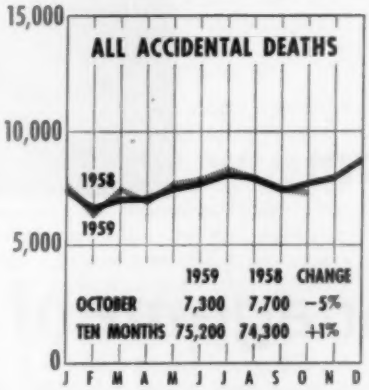
The 10-month death total was 75,200, or 1 per cent above 74,300 in 1958. There were increases in motor-vehicle and public non-motor-vehicle accident fatalities and no change in work and home.

Motor-Vehicle Deaths

There were about 3,420 deaths from motor-vehicle accidents in October, or 5 per cent below 1958. This was the first time in 1959 that a decrease was recorded.

Deaths during the 10 months totalled 30,560, an increase of 2 per cent over 1958. The 10-month death rate per 100,000,000 vehicle miles was 5.3, down 2 per cent from 5.4 in 1958.

Of the 48 states reporting for 10 months, 13 had fewer deaths than in 1958, and 35 had more deaths (including Alaska). States with the greatest improvement for the first 10 months of 1959 were: Maine, —26 per cent; Idaho, —21 per cent; and Louisiana, —17 per cent.



Reporting cities with populations of more than 10,000 showed an increase of 2 per cent for October and 4 per cent for the 10-month period. Cities with more than 200,000 population having the largest reduction in deaths for 10 months include: Rochester, N. Y., —53 per cent; Wichita, Kan., —42 per cent; Jacksonville, Fla., —35 per cent.

Work Accidents

Deaths from work accidents in October totalled 1,050, or 5 per cent less than in 1958. The total for 10 months was 11,100—no change from 1958.

The October frequency rate per 1,000,000 man-hours in 18 sectional accident prevention contests conducted by the National Safety Council was 5.85, an increase of 11 per cent over 1958. The 10-month rate was 5.46, an increase of 7 per cent from 5.12 in 1958.

Public Deaths

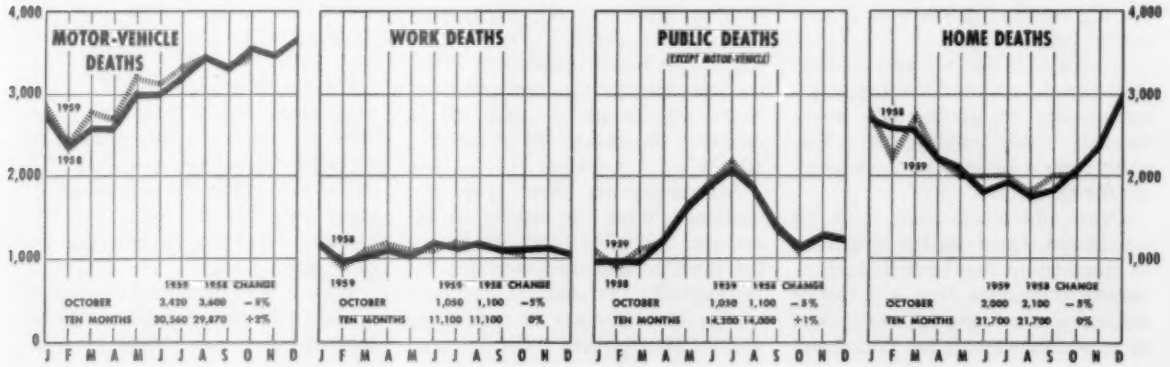
Public non-motor-vehicle deaths in October numbered about 1,050, or 5 per cent below 1958.

Deaths during the 10 months totalled 14,200, an increase of 1 per cent over 1958. More deaths occurred from burns, falls, and unspecified public accidents; and fewer deaths resulted from drownings, firearms, and transportation accidents. Decreases occurred in deaths of people 15 to 24 years of age and persons 25 to 44 years old. Other age groups showed increases, with the largest change recorded for persons of 65 years and older.

Home Deaths

Deaths from home accidents totalled about 2,000, or 100 fewer than in October 1958.

The 10-month death total was 21,700, about the same as in 1958. Increases in deaths from poisonings, burns, mechanical suffocation, and firearms accidents were offset by decreases in deaths from poison gases, falls, and unspecified home accidents. Decreases were recorded in deaths of persons in age groups 45 to 64 years and 65 years and older. Other age groups showed increases, the largest change being recorded for people 15 to 24 years old.



"The safety specialist is the coach, not the quarterback."

For a Sound Safety Program

Apply Management Principles

By RUSSELL DeREAMER

Corporate Safety Manager, International Business Machines Corporation, New York City

THERE IS no one pattern to which all enterprises might be molded. Each company has individual character and its own special needs. But there are certain basic principles of organization that can be followed. However, in applying these principles, we must recognize that the past might not be a safe guide to the future. Things are different now.

Foremost among these differences is the nature of the safety problem. In the past, maximum attention was given to development of safe working conditions. This was the engineering era, and it was a most successful period.

However, it has become obvious that records achieved through engineering are not getting any better through more engineering. This point cannot be ignored in organizing for the future.

Other differences also must be considered. Organization structures of many companies have undergone numerous changes. New concepts of managing are being followed. And of most importance, the duties and responsibilities, the skill and the attitude of the first-line supervisor is much different today.

What is needed is a safety organization that will in reality make safety a function of management.

This is no easy task. A leading management consultant has described the safety program along with the Christmas party and the blood bank—a function having only the most incidental relationship to business and the most peripheral impact on its success.

Another man, high in the ranks of management, admonished safety personnel for urging enforcement of safety rules. He advised posters, stunts and selling campaigns as a proper approach to getting employees to wear safety glasses. (If the employees who refused to wear safety glasses decided to enamel refrigerators black instead of white, do you suppose this vice-president would start a poster campaign to promote the merits of white enamel?)

Statements like these make the challenge more interesting. Management must be convinced that the same management concepts being applied to production, cost, and quality control must be applied to safety. Management must be convinced that safety and successful supervision go hand in hand.

In an effort to create a sound safety organization the focus must be on goals and objectives. The original goal in the field of safety was the prevention of accidents which resulted in injury to employees. This goal can be expanded. As a matter of fact, it has been expanded in several companies. It is recognized that accident prevention, security, plant protection, fire prevention, industrial hygiene and waste control have a common denominator—the prevention of losses.

Loss prevention techniques are the same, whether the loss is an injury to a worker, a production delay, damaged equipment or product, a fire or wasted material. A sound safety organization could encompass all of these functions.

No one-man job. In the beginning many safety programs were built around one man—the safety engineer or safety specialist. His efforts resulted in the elimination of many unsafe conditions. Safety records that had formerly been bad became good.

Now it is evident that these good records will not respond to the efforts of one person. Much more ef-

fort is needed to make a good record better than to obtain a good record in the first place. This conclusion leads to consideration of the first principle of good management that might be applied to the establishment of a sound safety organization.

A concept of modern management places authority and responsibility for making decisions at points as near as possible to where the action takes place. Accidents are the results of unsafe conditions, unsafe practices, failure to take corrective action, and a lack of employee-safety awareness. To achieve results requires correction of the unsafe conditions and unsafe practices and a development of safety awareness.

This being the case, the first line supervisor and not a safety specialist is in the best position to get at the problem. The supervisor can take direct action. He is closest to the point where the action takes place.

Significantly, outstanding safety records are being recorded in those plants where the safety program has been built around the supervisor, where not just the safety specialist is doing a good safety job, but the entire supervisory staff has assumed full responsibility for accident prevention—where safety performance is a positive factor in a supervisor's chances for an increase in pay and advancement—where safety is built into each job.

Of course, in some cases the claim may be made that supervisors are responsible for safety although there is no valid basis for the assertion. If employees rush to put on their safety glasses, or to replace a machine guard when they see the safety specialist, but feel free to work without protection in the presence of their supervisor, obviously responsibility for safety has not been assumed by the supervisor.

Also, when the safety specialist signs and issues all safety instructions, prepares the injury reports, conducts the safety meetings, he and not the supervisor is doing the safety job. But by not assuming this safety responsibility the supervisor gives up some of his rights to manage. He ignores an important part of his job, a part which will help him win greater acceptance of his leadership and improve his skill to manage.

Where the line supervisor's responsibility for safety has not been clearly established, it would, of course, be necessary to clearly define this responsibility. It is also equally important that the functions performed by the safety specialist do not become an "Open Sesame" for the supervisor to duck his safety responsibility. On the contrary, the actions of the safety specialist must emphasize where this responsibility belongs.

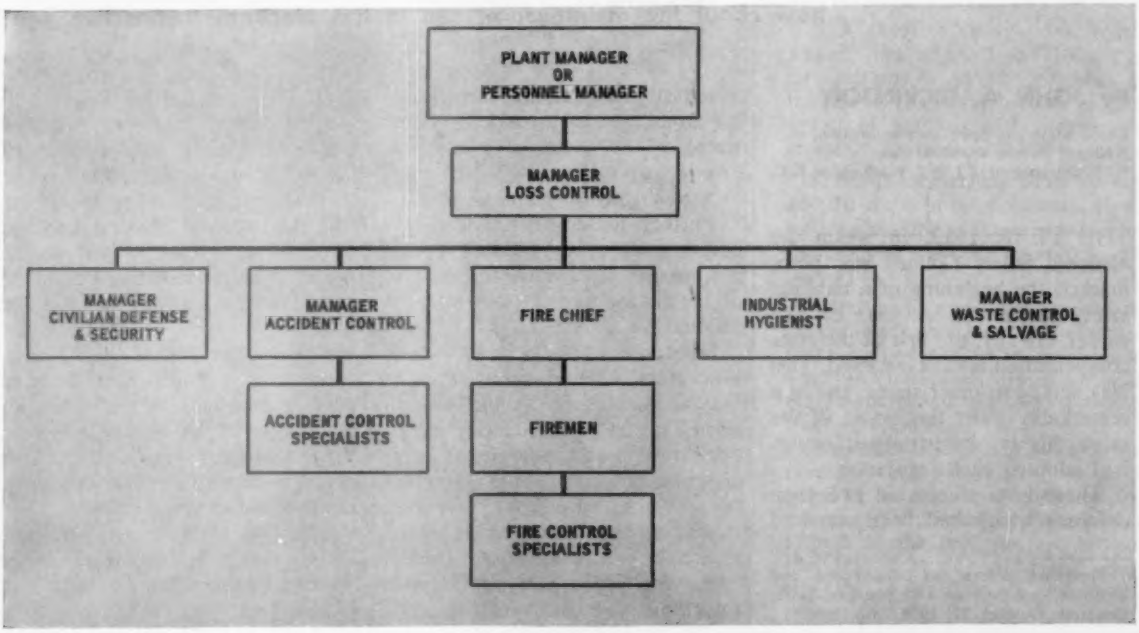
Safety committees. When we are trying hard to fix responsibility for safety, it may be found that the present safety organization, if it includes employee safety committees, provides an easy way for the supervisor to duck his responsibility for safety, and likewise, responsibility is avoided by the committee too. Therefore, it would appear advisable to question the need for including safety committees in the safety organization of the future.

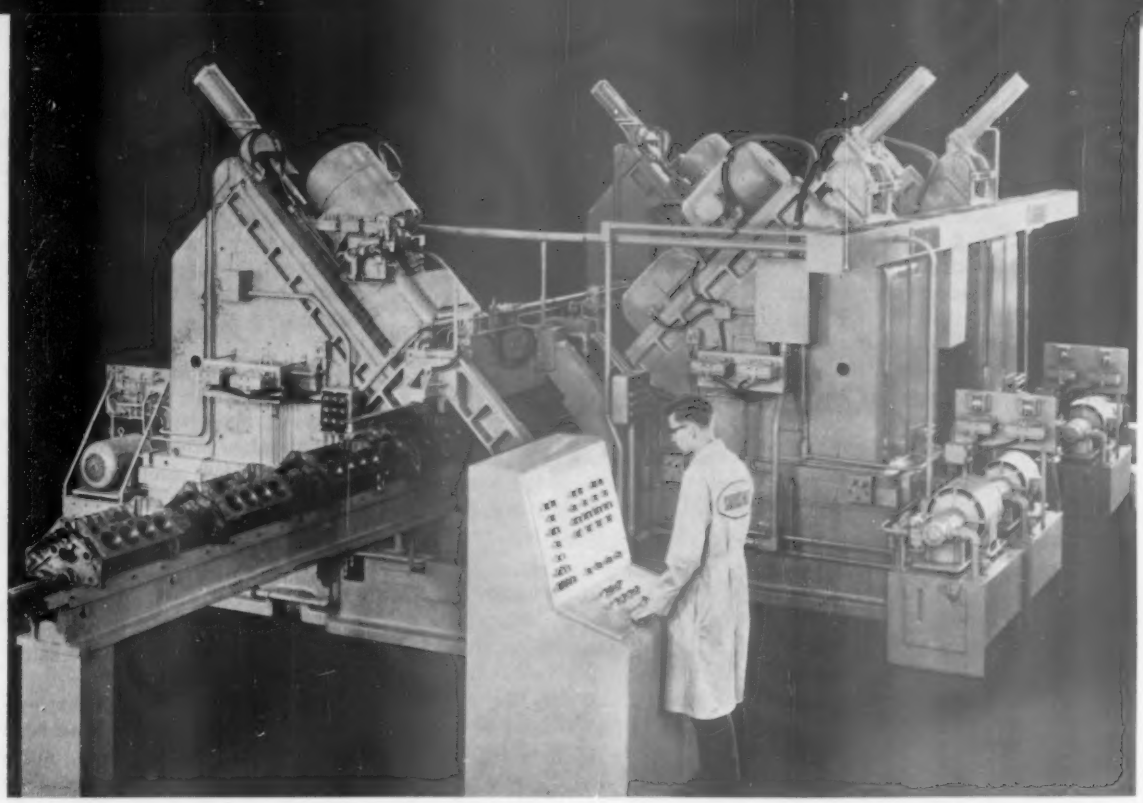
Of course, it is realized that employee safety committees have been widely used for many years, and a large number of them have been most effective. However, some companies, in planning for the future, have substituted for their employee safety committee new techniques for promoting employee safety participation.

But the change was not made just

—To page 68

A proposed loss control organization for a large plant. In a small plant, functions might be combined or omitted, depending on the need. The principle objective of such an organization structure is to combine various loss control functions under one head.





Sunstrand Machine Tool Company

The Machine Tool Field
. . . *A Changing Picture*

Push-button control keeps the operator out of much danger. But how about the maintenance man in this electronic radioactive age?

By JOHN A. DICKINSON

Chief, Code and Specifications Section,
National Bureau of Standards,
U. S. Department of Labor, Washington, D.C.

THE YEAR 1913, in which the National Safety Council was born, marked the beginning of a national safety movement. A year or two earlier (1911), the first of the state compensation laws was passed. This idea spread to other states, and in a remarkably short time most of the more highly industrialized states had adopted such legislation.

These laws eliminated two legal defenses which had been standard in industry in defending suits resulting from industrial accidents. They were:

1. Assumption of risk.
2. Negligence of fellow servant.

Further, these laws provided specific amounts or, rather, specific percentages of earnings for the loss of life or for partial or permanent disability.

Insurance took a new form: Workmens' Compensation replaced the old employers' liability—needless to say at a considerably higher rate, since payments were made in all cases covered by the particular law. The large insurance companies started systematic inspection of the insured's premises. These inspections resulted in recommendations for elimination of obvious hazards.

In 1913 the Rating Bureau was formed. Schedules were prepared for each industry with a system of credits or debits for plants better than normal or below normal from the standpoint of physical hazards. Credits, as high as 40 per cent of the base or manual rate, might be earned with a perfectly laid out and guarded plant.

For the first time, a guarded machine could result in a financial gain. In fact, most of the credits for guarding were so worked out that, if the standards were met, the cost could be earned in premium savings in from five to seven years.

Strangely enough, some of these early standards were amazingly modern by present-day criteria.

In a few years the machine haz-

Presented before the Automotive and Machine Shop Section, 47th National Safety Congress, October 21, 1959.

ard was reduced tremendously. Large corporations, generally self-insured, began to write purchase specifications calling for completely guarded machines. Existing machines were guarded. Stairs and elevated walkways were railed. Better lighting was installed. And obvious hazards were eliminated.

Most of the machine-tool builders, if they had not previously done so, brought out machines in which gears, shafts, etc., were completely enclosed. Unfortunately, there was a large market for machines without guards.

For the past dozen years, the Industrial Conference has had a committee working toward the ultimate of a machine fully guarded at the place of its manufacture. Some of the most outstanding names in safety have been connected with this committee, which includes Don Vaughn, Bill Smith, and Allen L. Cobb.

While much has been accomplished, there is one group that insists the small plant wants an unguarded machine because of the lower initial cost. (It has been pointed out that the manufacturer of a machine can make guards to fit it at a lower cost than the purchaser can). Some small factory owners contend a machine can be equipped with guards at relatively little cost using mechanics between jobs when they might otherwise be idle, and utilizing waste material ordinarily sold for junk.

While this argument has considerable merit, it has one serious defect. A new machine, purchased at a cost of several thousand dollars, will in all probability be put to work as soon as it's installed. The necessary man-hours or material for guarding may not be available for weeks or months.

Almost anyone with experience in the insurance-inspection field must have run into such cases repeatedly. "Yes, we're going to guard that machine, but we've been so busy we haven't had a chance to get at it. We'll do it the first time the work load slacks off a bit." Doesn't that sound familiar?

Another growing field for low-priced unguarded machines is the home workshop. Woodworking power tools, small machine lathes, drill presses, milling machines, and similar apparatus are selling at an ever-increasing rate. With the percentage of elderly people in the total population increasing year by year, and with compulsory retirement regulations of many corporations, we have a leisure group seeking an outlet for their energies and skills.

In addition, there is a large number of younger men in the working-age group who use their home workshop as recreation or as a method of saving a considerable amount of money by making bookcases, shelves, children's furniture, toys, etc.

As a general rule, such equipment doesn't come under the scope of labor legislation and, even if it were to be included, one would be faced with the old principle that "a man's house is his castle." Regulation of home elevators is not attempted in many jurisdictions because of this viewpoint. In the list of home accidents, home workshop cases are beginning to show an ominous increase.

The only remedy would appear to be education of individual home-shop owners, plus an attempt to get the manufacturer of small home-shop machines to sell nothing but fully-guarded equipment.

—To page 72

What can we expect in the 1960's?

1. More and more automatic equipment excellently guarded, with the operator moved further and further from the point of operation, or perhaps made an ambulatory supervisor to a group of machines. This number of operators will not increase as fast as production does. In fact, the number of operators may actually decrease.

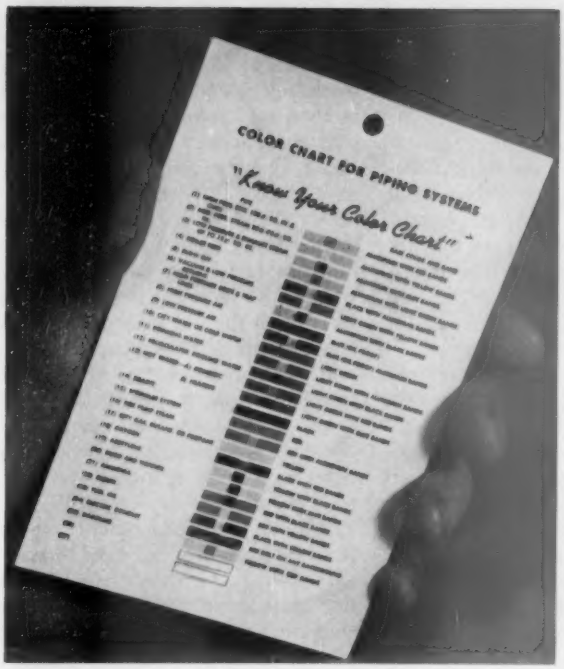
2. A group of highly-trained maintenance men who will be subjected to new hazards in addition to those of the old-fashioned machine shop. This group of workers will become increasingly numerous.

3. Small independent shops or tool and die shops in large industry. Here, we should work as far as possible for the machine tool fully guarded by the maker.

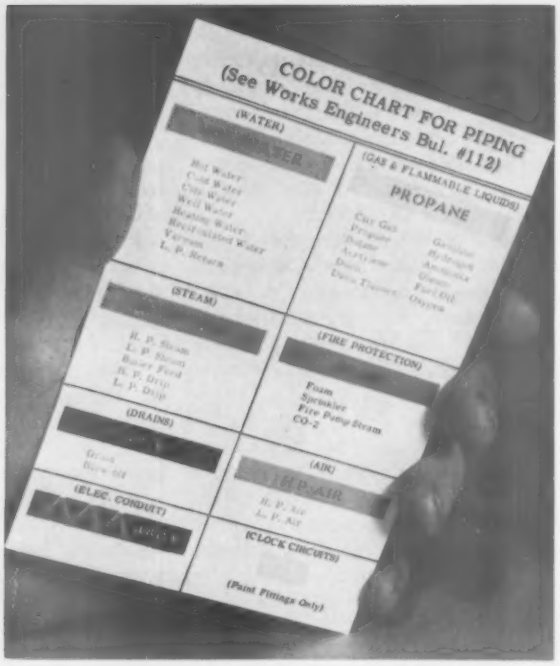
4. The home workshop group. Here, in addition to working with machine tool manufacturers, safety men should wage an educational campaign using off-the-job safety training to reach those still working.

Magazine articles and talks to retired personnel are clearly needed. It might be well to stress the need for guarding home workshop equipment as well as the need for eye protection and (in wood-turning and sanding) the desirability of respiratory protection.

Back in 1882, this Warner & Swasey turret lathe was the last word in machine tool design. It was loaned by the Ford Museum for exhibit at a trade show. Contrast it with the automatic push-button controlled machine shown on the facing page.



Typical pocket-size piping identification card for maintenance personnel. Color only is used as a means of identification in this particular system.



Pocket-size color card for maintenance men uses a system having only a few primary colors and using lettered identification in addition to the color.

COLOR plus

With a multitude of liquids and gases and only a few primary colors, lettering aids identification of pipe line contents

By DAVID MILNE

Supervisor, Materials and Processes,
Production Engineering Section,
General Motors Corporation,
Detroit, Mich.

WHY IS an identification system necessary for piping?

Those who have worked in a large manufacturing plant, waterworks, or in a sewage disposal or industrial waste plant can appreciate the number of widely different materials being transported through piping systems. Some means of identification must be provided to prevent confusion, error, or accident resulting from an improper connection or from operating a valve at the wrong time.

From a paper presented at the 13th Annual Purdue Industrial Waste Conference.

This article will set forth some requirements of a satisfactory system and describe types of systems in use. It will also include a history of the activity of General Motors in the development of its own system.

A good identification system provides information on the nature of the material in the pipes and the potential hazard. This, in turn, provides some information on what control measures would be needed in case of line failure or work on the pipe line.

We have all had experiences which point out the need for identification of pipe lines. In one instance, in an automotive assembly plant, a long section of the assembly line depended on air tools. During one lunch hour, a misinformed pipe fitter connected a water pipe into the air line. As a result, the whole assembly line was showered with water from the exhaust of these tools when the line started up again. This meant a costly delay while the tools and air line connection were disconnected and cleaned out.

In another case, an outside contractor was doing some work inside the plant on a week end. A workman became thirsty and drew some water from a nearby pipe line, assuming it was city water. It turned out to be circulating water from a welder cooling system treated with chromates to avoid corrosion. The plant lighting system was almost entirely shut off and the light was too dim to let the worker see the color of the water. The water made him ill.

Along with the obvious advantages of the piping identification system, some difficulties should be

noted. In the first place, maintenance of a system is costly. Time is involved in making sure that all piping is properly identified, and in applying the system selected.

Some systems tend also to be complicated and there may be confusion as to the material in each pipe unless an identification chart is available. If the system is not well planned and needs changes after it has been in use for some time, more confusion is added.

Again, if an individual has become accustomed to one method of piping identification in some other plant where he has worked, there is distinct possibility of confusion and hazard while he is becoming familiar with the new system.

Another possibility for trouble in a system which depends on color alone for identification—even with the assistance of a color chart—would be with maintenance men who are partially or wholly color-blind.

Requirements. First, a piping identification system must give instant information on the nature and physical condition of the piping contents.

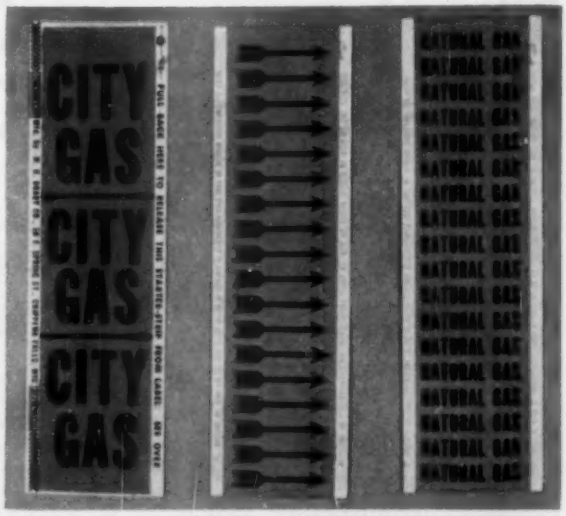
Second, the system must indicate the hazard associated with the material in the pipe.

Third, it must indicate direction of flow so instant corrective measures can be taken in an emergency.

Finally, the method of identification must be highly visible to permit recognition from floor level.

With these requirements in mind, let us consider the different types of coding systems available to the ordinary manufacturing plant. Color

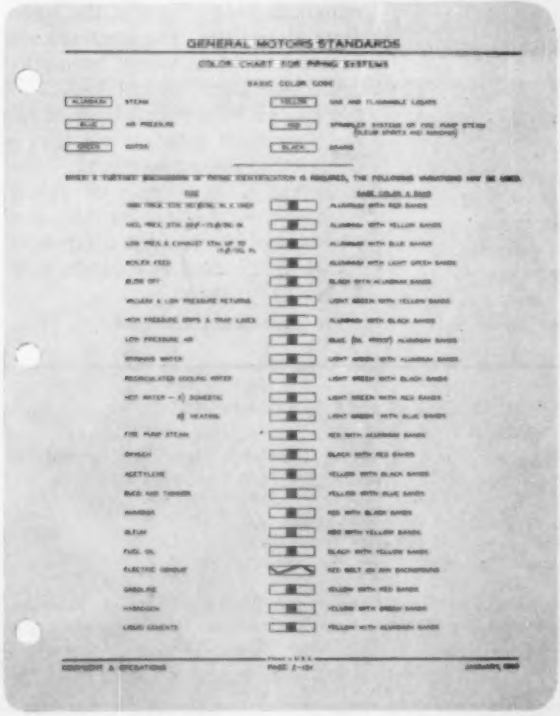
—To page 136

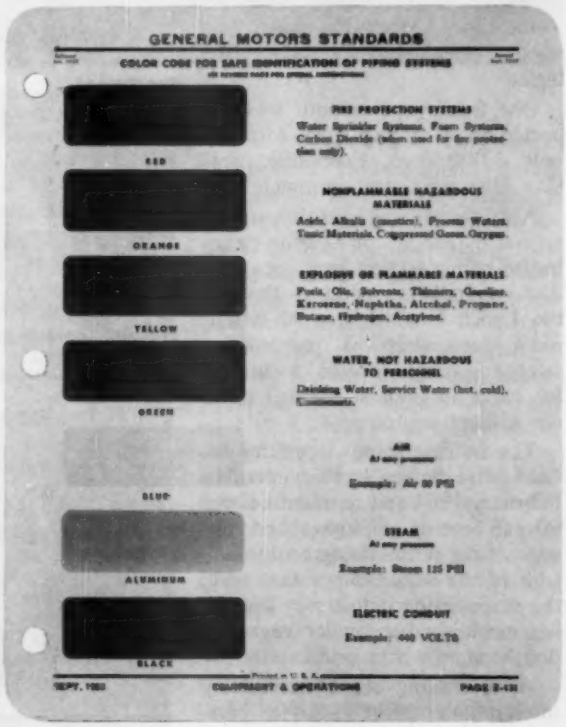


RIGHT
Adhesive labels used for identification of piping contents.

LOWER RIGHT
The 1953 standard developed by General Motors used color as a means of flash identification of the presence and nature of hazard in piping contents. Lettered identification, together with other identifying symbols, was also required.

BELOW
The original General Motors color code for identification of piping issued in 1950. This system was concerned only with use of color as a means of identification of piping contents.





U. S. Bureau of Mines.

The Insurance Carrier Was Going to Cancel . . .

But labor, operators and government got together in a program that reversed a disastrous accident trend in Indiana coal mines

By CHARLES FERGUSON

Director, Safety Division,
United Mine Workers of America

WHILE INDIANA'S deep-mine tonnage is relatively small compared to total tonnage produced in the United States, frequency and severity rates several years ago were high.

One fatality per month was expected in a mining work force of only 3,000 men. Economic pressure required a new approach.

Also threatening was impending refusal by Lloyd's of London to reinsure compensation insurance carried by Indiana operators through the Lynch Coal Operators' Reciprocal Association. A constructive safety program became necessary, for mines in Indiana couldn't operate without insurance.

The Indiana Joint Committee for Coal Mine Safety was organized in February 1954 and represents about 90 per cent of employees and tonnage of the deep-mining coal industries of the state. (Since that time, the strip-mining industry in Indiana has established a similar organization.)

At a meeting of various mining interests, the effort began to crystallize. I suggested a seven-point program. Accepted, it included these items:

1. A continuous educational campaign on causes of all accidents occurring in mines connected with the safety program.
2. No punitive provisions of any type.
3. Accident prevention and first aid training as important segments of the project.
4. Public recognition and other rewards for those building noteworthy safety records.
5. Continual demonstration by labor and management of sincerity of purpose.
6. Full, proper use of accident prevention literature and posters.
7. Recodification and modernization of Indiana mine laws.

Within a year these recommendations had produced noticeable benefits.

The table below shows improvement recorded since formation of the Joint Committee.

Organization. A steering committee directed efforts of the larger Joint Committee. The steering committee had 11 members by mutual agreement: four representatives of the United Mine Workers of America, four from management (one a deep-mine superintendent), one from the U. S. Bureau of Mines, another from the Indiana Bureau of Mines and Mining, and a representative of the insurance carrier—the Lynch Association.

A permanent secretary *ex efficio*

INJURY AND PRODUCTION RECORD AT NINE INDIANA MINES, 1949-53 and 1954-58

	No. of Injuries			Rate per million man-hours			Productivity
	Fatal	Nonfatal	Total	Fatal	Nonfatal	Total	Tons per man-hour
1949-53	24	1,651	1,675	1.38	95.05	96.43	1.18
1954-58	8	1,124	1,132	.55	77.65	78.21	1.53

Fatalities decreased 67 per cent; rate decreased 60 per cent
Nonfatals decreased 32 per cent; rate decreased 18 per cent
Combined number of injuries decreased 32 per cent; combined rate decreased 19 per cent
Tons per man-hour rose 30 per cent
Mines represented: Viking Coal—Viking Mine; Snow Hill—Green Valley Mine and Talleydale Mine; Tri-K Mining—Tri-K Mine; Fairview Collieries—Minnehaha Mine; Pandora Coal—Pandora Mine; Enoco Collieries—Enoco Mine; Princeton Mining—Kings Mine; Ingle Coal—Ditney Hill Mine.

records committee activities at monthly meetings, held alternately in two Indiana cities.

The commitee now operates as a low-pressure coordinator of available safety incentives in building a well-balanced safety-reminder system.

Training. Aware of benefits in other areas through Bureau of Mines accident prevention training, the committee enthusiastically supports this activity. More than 1,500 men received such training in the 1954-55 training season, and seven mines trained all workers.

This is a fine demonstration of mine management-union cooperation. The union served effectively as a recruiting agency in this project, which continues at mines that didn't take part during the training period.

December Campaign. More mining accidents occur during December than in any other month. The committee decided to conduct a safety campaign to offset this accident period.

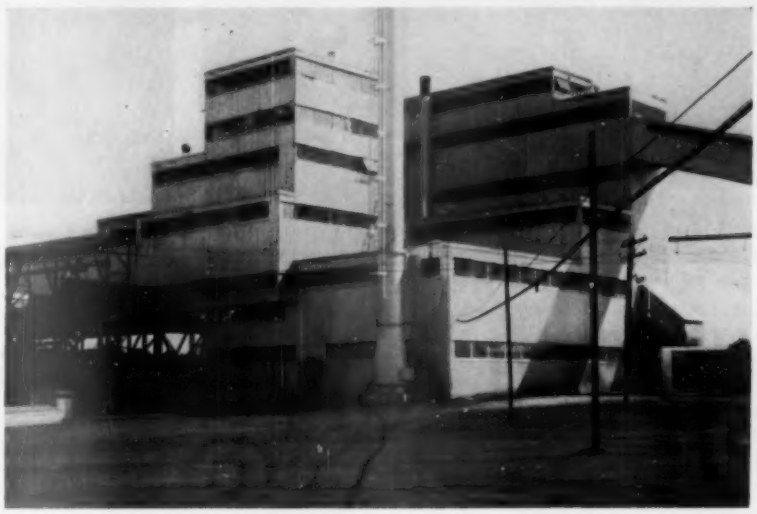
Each unit foreman was instructed to have a short safety meeting with his crew at the beginning of the shift every Monday in December.

Heads of agencies promoting the Joint Committee prepared letters expressing their views on accident reduction methods. Unit foremen used these letters as a basis for discussion with crews during the Monday safety sessions.

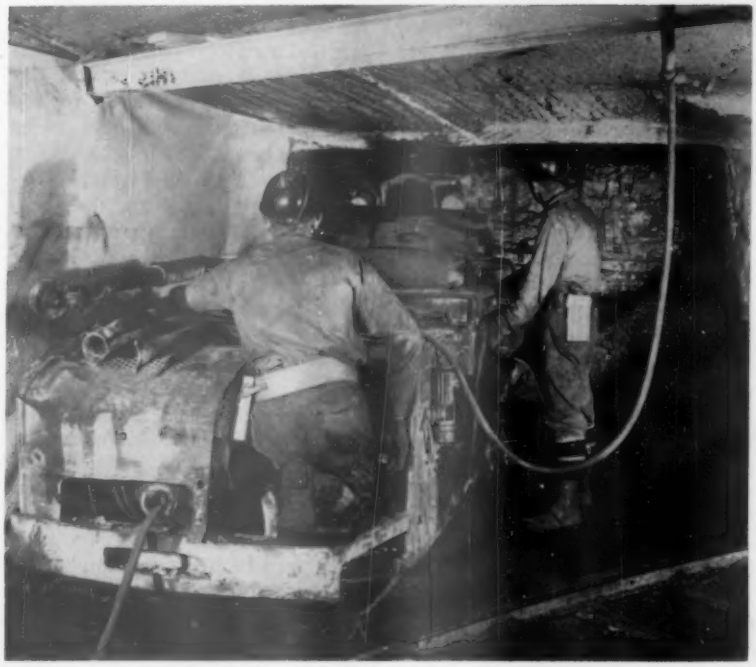
Envelope inserts with the same message backed up the letters. And posters were prepared and displayed at all mines. The poster said: "Don't Spend Your White Christmas in a Hospital."

This multiple approach apparently succeeded. There wasn't a single fatality or serious injury during the month. This record set a new high in mine safety for the month of December.

A similar effort, conducted in weeks prior to miners' vacations, produced equally praiseworthy results. Our main theme in these campaigns has been to constantly remind workers—otherwise thinking of holidays—to remember their safety responsibilities.



A modern tipple at an Indiana mine. (Lynch Coal Operators).

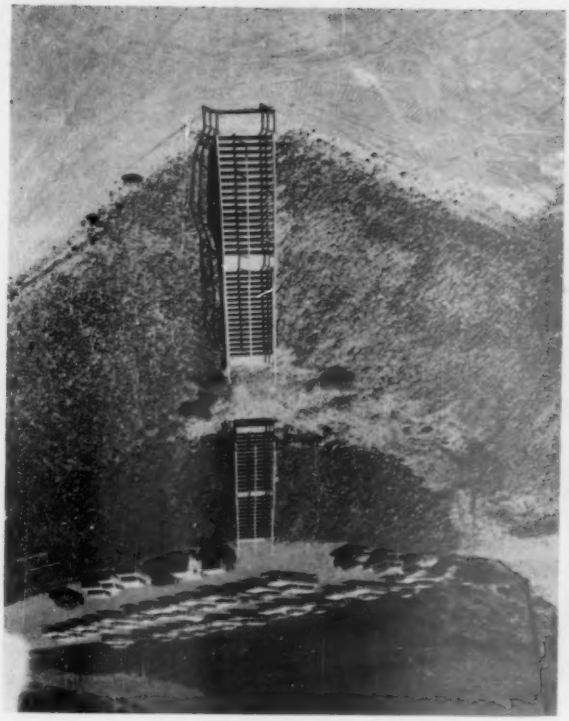


Permissible equipment has reduced the hazards of mining. Illustration below shows permissible cutting machine in operation, also flame safety lamp, line canvas for face ventilation, water line for keeping down dust, and safe clothing worn by workers.

Accident Investigations. Safety engineers of the Lynch organization and Indiana state and federal inspection agencies investigate fatal accidents. The Lynch association also examines all serious non-fatal accidents.

A report, including a sketch of physical accident conditions, is prepared on findings. Copies are posted on bulletin boards at all mines in the program. To attract attention, additional reports are reproduced in different colors.

The coordinating group of the committee maintains a continuing effort in safety education and action. It holds quarterly meetings in the state, inviting supervisory personnel, safety committee members representing employees, and speakers of national reputation in the industry.



A well-constructed stairway provides safe access to employee parking lot.

These fur-bearing scavengers sometimes create impromptu hazards on operations in Alaska.

It's Part of the Contract

Safety specifications of the Army Engineers are included in all contracts for construction of military buildings

By MERRILL D. ELY

Chief, Safety Branch,
U. S. Army Engineer Division, North Pacific

WHAT happens to military building designs when the economy bloc meets the safety planner head on? The command, the "using service," designers, and construction forces should each try to get the most protection for their money. And there's no percentage in short cuts and skimping. When experience, backed up by codes and standards, demands that certain things be done, these should be accomplished, especially when safety is involved.

Plans, specs, and construction details begin to jell on receipt of the design directive. Even at this stage, accident prevention problems often pop up.

One design directive called for development of plans for a building to house an infirmary, gym, theater, and post exchange. There were limits on floor space and cost.

Such occupancies frequently are opposed to each other. An infirmary is classed as an institution, along with hospitals, schools, and prisons. The theater and gym are designated places of assembly, and the PX is considered mercantile. Normally, buildings of mixed occupancies follow code requirements of the most hazardous occupancy.

Here, excellent fire protection was necessary for the infirmary, which had to have wide hallways and doors with easy access for patients. Properly located exits would be necessary in the theater and gym. The theater's stage and projection booth demanded special protection, and the PX needed access for freight.

In design, the PX was to be on the second floor over the infirmary. A single corridor through the building opened into the infirmary on one sign had been followed, the combina- the other. A centrally-located elevator was to handle freight for the PX, but freight would have to be trucked through the central corridor.

A review showed that, while design had been followed, the combination of occupancies created hazardous, impractical conditions.

Siting is another problem area. Once, the siting board located a school across a heavily traveled street from a housing area. Traffic controls had to be installed and fencing built for the childrens' safety. This hazard still exists.

Once again, a layout was located where it was impossible to have safe distance clearances. This situation often occurs in housing areas, where it's difficult to spot certain numbers of units without violating space needs.

Efforts are made to check such conditions before final decisions are made on the project. But command or the using service frequently overrules these efforts, or the problem goes unnoticed until designing gets so far along that it's impossible to make safety changes.

Also, the cost of fire protection sometimes brings objections from command and the using services on what *is* the required minimum protection.

Unusual precautions on a roofing job. Workers are protected by a substantial railing which completely encloses the area.

Water supply is often an acute problem. A deluge or sprinkler system is valueless, if water isn't available. And the cost of developing a supply becomes serious when the amount needed for fire protection is greater than that needed for other uses.

Often, adequate fire protection has been sacrificed because of the cost of water supply. Directives now state that fire protection won't suffer, if funds are lacking or other conditions occur.

Years ago in Alaska, opposition organized against fire alarm systems in single-story barracks. Directives then called for a single-story frame construction. Individual units were heated with warm air circulated by duct system through the central hallway and room outlets. Cold air returned by floor level louvers in room doors.

The opposition said the cost was unjustified, since ground level windows gave excellent means of escape from fire. So the alarm systems were eliminated.

After occupancy, at about 5 a.m. one cold day, a fire started in the womens' dorm furnace room. Fire spread rapidly in the furnace area. As the circulating system continued to operate, hot fumes and gases were carried to rooms through the duct system. Four women lost their lives. Of course, prompt remedial action was taken.

Safety standards and fire codes are considered in design. But compliance doesn't always get rid of booby traps that experience teaches us to look for. These must be exposed by careful study of the plans.

Floors. The safest floor is flat, smooth and skidproof. Its surface

—To page 142

Constant supervision is needed to make sure the rigid specifications of the U. S. Engineers are carried out. Somebody apparently slipped here, as evidenced by the stairs without rails and the poor housekeeping on the ground.

"Watch your step" is a must around construction jobs. Somebody may leave a booby trap like this.

THE PLANT WITH A

Aerial view of Flick-Reedy plant with two man-made lagoons in foreground. Lagoons are part of plant's fire protection system.

A unique plant and an unusual president combine to keep Flick-Reedy workers safety conscious both on and off the job

By TOM DODDS

Editor, *The Safe Worker* and *The Safe Driver*, National Safety Council

A SHAPELY GIRL poises on the diving board, then springs gracefully into the clear, blue-green water. Nearby her husband lounges on a beach chair, keeping a watchful eye on a youngster playing happily in nautical surroundings.

This isn't Florida or California or Las Vegas. It's the Bensenville, Ill., plant of Flick-Reedy Corp., a progressive and safety-minded manufacturer of hydraulic and pneumatic cylinders.

Why the resort atmosphere? It's part of the carefully planned solution to a water supply problem which has been turned into a plus for plant personnel.

The swimming pool—available daily to employees and their families—is an integral part of the plant fire protection system. If a fire should break out, water from the pool would go directly into the sprinkler system. Flick-Reedy also uses the pool as a testing ground for a new chemical and water filter the firm has developed.

The plant draws all water needed for air conditioning and industrial purposes from two man-made lagoons. The lagoons store rainwater collected by drainage from the plant's five-acre roof and five-acre parking area. These, together with a third sanitary system lagoon, give

Good housekeeping is in evidence in storage area where steel and brass tubes wait to be made into many-sized hydraulic cylinders.

New plant has broad floor area allowing plenty of room for expansion. Note white shirts on workers, also spotless floors.

PERSONALITY

the plant a complete internal water supply and sanitation system.

And there's some recreation in it for the employees, too. The lagoons are stocked with game fish, and during winter are turned into skating ponds.

An additional benefit of this water supply system is that there's no need for a water storage tower. Such a structure would be hazardous because of the nearness of Chicago's O'Hare International Airport, with its fast-growing volume of flights.

The unique water supply system and other unusual features of Flick-Reedy are no less impressive than its forceful president, Frank Flick. Personable Flick really gets out from behind his desk. He knows what's going on at the sales end of the business and out in the plant, too.

A surprisingly large number of employees greet him as "Frank." Actually, he did much of the design work on Flick-Reedy products. He has a determined talent for analyzing production and design problems. And given a tough troublesome situation, he may work right on through the night until he feels he has the answer.

Since Frank Flick is so intensely interested in all phases of operations in the plant, it isn't surprising that he recognizes the value of safety and puts great stress on it. He has detailed knowledge of the Flick-Reedy safety program and can rattle off numerous facts about some of the company's disabling accidents.

Flick isn't a member of the safety committee. But the committee is well aware that the boss knows what they're doing. All written reports and memos are routed to him. Employees are shown that safety's important with management. That's the key, Flick believes.

He says, "It's not only important that the boss knows what the employees are doing, but it's important that employees know that the boss knows what they're doing."

Inspections are made monthly by a three-man team from the safety committee. Membership in the three-man group is rotated among members of the committee. At present, the insurance carrier is conducting classes for all supervisory personnel, instructing them about what to look for in making thorough and efficient inspections.

Obviously, Frank Flick believes in the old saw: Cleanliness is next to godliness. Sweepers and scrubbers are in evidence throughout the plant. Oil spills are mopped up immediately with detergent.

These spills could easily be tracked from the plant to the office area, since the two places are separated only by a window wall (to give employees better esprit de corps). But Flick's attitude on cleanliness apparently has rubbed off. The tiled floor of the office section remains almost spotless despite constant movement between the two areas.

The oil-spill hazard was left behind when Flick-Reedy moved to its present location. The spills had been a big problem. Flick-Reedy cylinders are tested with oil before they are shipped. This process resulted in occasional spills, with slippery floors and oil tracked to other areas.

Flick didn't want any such trouble in the new plant, so he went to work and came up with a specially-designed grilled floor for the testing stand. Oil spills now drip through the grillwork to a sump below. Here, the oil is filtered clean and reclaimed.

One Flick brainchild didn't work out so well. The plan was to issue white shirts and black bow ties to all plant area employees. They were to be worn during working hours. This, Flick theorized, would promote general neatness in the plant, give the men a feeling of pride and keep them from getting dangerously close to certain machines.

His enthusiasm wasn't shared. Said one worker: "The reason I'm out here instead of in the office is that I don't want to wear a white shirt and tie." But Flick still has

Turn Page

"I don't know whether or not safety saves money . . . I believe it's important from the human point of view."

"I know what the employees are doing safetywise, but, more important, they know that I know what they're doing."

"A clean, neat-looking plant with everything in place will do a lot to encourage safe habits and attitudes."

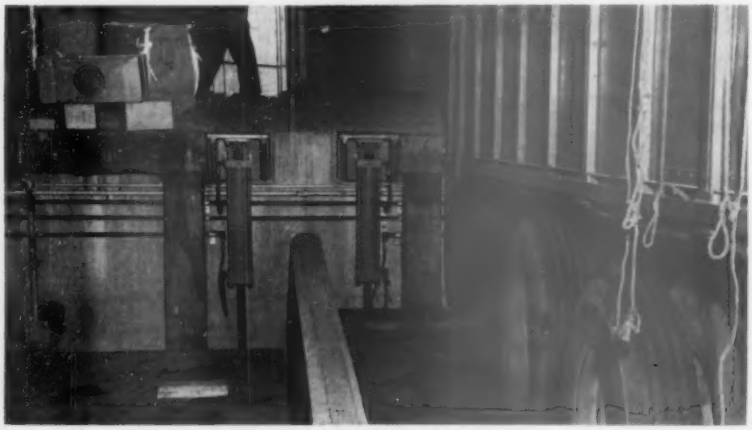
"Attitudes can't be overestimated . . . Good driving attitudes will inevitably carry over into working time."

The Plant with a Personality

Swimming pool, an integral part of plant fire protection system, provides recreational outlet for workers and their families. Plant also contains large gym.

Flammables are stored in a separate building which is protected by automatic fire door. Roof is designed to blow in case of fire, protecting main plant.

New plant has grilled floors at plating and testing areas so that spilled liquids will flow to lower level, thus preventing painful slips and falls.



Truck bays in loading dock have individually controlled devices for adjusting truck beds to dock height. Device is powered by company's hydraulic cylinders.

hopes, and interestingly enough, many white shirts are in evidence in the plant area.

A carefully planned Flick-Reedy feature, protecting people and plant, is a small, separate structure attached to the manufacturing area. Here, flammable liquids are stored. A door that closes automatically guards the entrance. The floor level of the structure is depressed below the level of the plant floor. This prevents spilled or leaking liquids from running into the working area. The roof of the structure is designed to blow first, should there be an explosion.

Features such as this plus good-housekeeping techniques in evidence around the plant develop safe habits and attitudes among employees.

Flick believes strongly in the importance of attitudes. Reasoning that good driving attitudes will inevitably carry over into working time, he arranged for Chicago Driver Improvement School instructors to visit the plant. Every employee, including Flick, went through the course.

He is a strong advocate of automobile seat belts. Several incidents sold him on their value. Some years ago he helped remove a young woman from the wreckage of an automobile. She had been thrown from her car and her head crushed under the fender of the other car. She died before reaching the hospital.

Flick felt her life would have been saved had she been strapped in with a safety belt.

One accident proved the real clincher in Flick's estimate of seat belts. His wife, riding with a friend whose car wasn't equipped with seat belts, suffered painfully crushed ribs in a collision.

Interest in traffic safety led to his accepting the chairmanship of the National Safety Council's Traffic Inventory Awards Committee for 1959, a position he still holds. In addition, he is a member of the NSC Board of Directors.

Does safety really save money in a plant operation? Frank Flick confesses he doesn't know. He's never studied any figures. But he says, "I'm not interested in safety from the money angle. I believe it's important from the human point of view."

THE DIARY OF A SAFETY ENGINEER

By BILL ANDREWS

Bert's first month on the safety staff showed that he has a few things to learn . . . his boss, too

(Fiction)

The New Safety Man

February 1, 1960

BERT HARDING has been on my staff nearly a month, and the period has produced some surprises.

One thing his arrival has done is make me rearrange my vocabulary —*and Bert's.*

I hadn't realized how completely engineering trade talk dominated the safety office until Bert started as my new assistant. Even my secretary was used to throwing around terms like "coefficient," "impedance," "tensile strength" and "correlation." But when such terms were used in Bert's presence, he looked blank, puzzled, and unhappy.

On the other hand, Bert's language turned out to be overripe with the graphic descriptive power of the talk of the shop floor and the men's locker room. The first time he delivered an oral report on some bad housekeeping he had seen, my secretary-gal turned a bright pink.

So I went into a huddle with Bert. "Look," I said, "it doesn't matter that you don't understand a lot of the specialized vocabulary of an engineering office. I knew when I hired you as my assistant that you were a man from the shop without formal engineering training.

"As a matter of fact, it will be a good discipline for me to state things in nontechnical language. My first boss at Monarch owned a book on chemistry which consisted of an imaginary discussion of the subject between an adult chemist and his 10-year-old son. The boss used to say he reread the book once a year to keep himself from forgetting basic principles.

"So we'll try to reform our language, and if we forget to do so, feel free to ask any questions you want. We hired you for the kind of man you are, not for any specialized education.

"On the other hand, you've got some reforming to do, too. Back in the shop, you were among men all the time. They cussed, and cussing seemed natural to them. They used obscene words so commonly that they didn't seem obscene. But now you're a safety man for the whole project.

"You'll be working in shops where there are women. You'll be in this office, where there's a girl secretary. You'll have dealings with the front office, and there are women executives and clerks there. If you keep on talking the way you do, you'll be creating roadblocks in the way of getting the safety job done."

He promised to reform, and both he and I have made some progress in the vocabulary department.

* * *

One kind of trouble I always expect from a new safety man is an exaggerated perfectionism. Almost all my assistants, when they were just getting started, have been finicky to a fault in their inspection reports. They come out of college with an image of what the industrial plant ought to look like, and if it fails to come up to their expectations, they are quick to condemn supervision and management.

All this being true, I waited with resigned anxiety for the first inspection reports to come in from Bert.

To my surprise, he filed short reports, noting few shortcomings. I confess I was relieved, and I took the reports at face value. But when a week of work produced reports that seemed to indicate there had been a major reform in the general level of housekeeping and shop practices in the project, I began to get a little suspicious.

So I backtracked on shops he had just inspected. There was nothing to quarrel with on his comments on obvious housekeeping shortcomings. As a matter of fact, I learned that certain conditions he had reported have since been corrected.

However, I did run into a situation in one shop where flammable liquids were being stored in nonstandard containers. In an area under construction, there was a temporary electric-power setup that invited electrocution. And in the entrance to one of the small installations, half an inch of ice had accumulated on the sidewalk where a leaking gutter dripped from an overhanging roof.

So I had another heart-to-heart talk with Bert. His explanation began like this:

"I didn't see much point in writing up a poor mug of a foreman who let things slip. I just talked to

—To page 108

Pittsburgh's imposing Penn-Sheraton located on William Penn Plaza.

While The Guests Sleep

An automatic system for fire detection and extinguishment stands guard over locations of potential fire hazard

"FIRE is the most disastrous thing that can strike a hotel," says Charles T. Carey, general manager of Pittsburgh's Penn-Sheraton Hotel. And that feeling is shared by the managements of the country's leading hotels.

Hotel fires, as experience has shown, can endanger lives, cause staggering property damage, and result in panic which sometimes multiplies the losses of life and property.

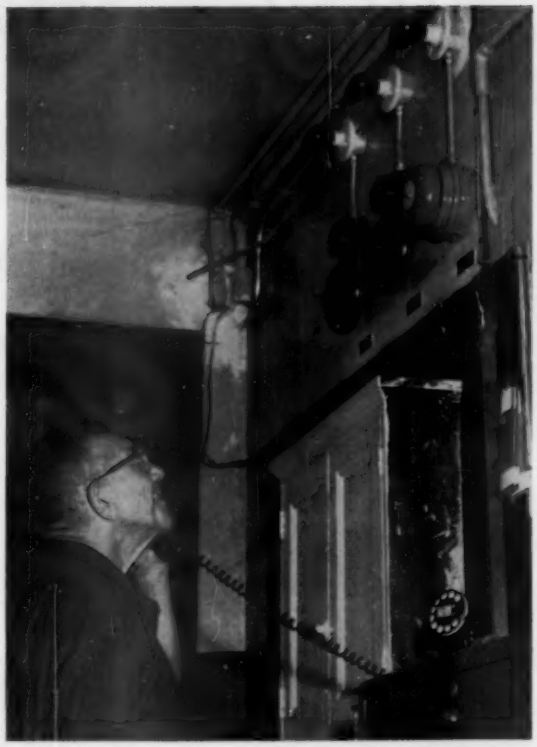
Typical of the thorough programs which the Penn-Sheraton has established to minimize the possibility of fire disrupting normal operation can be found on the hotel's nineteenth floor. There flammable paints and solvents are stored and mixed. Also located on this floor are the carpenter and upholstery shops, carpet-paper-furniture storage rooms, and elevator and air-conditioning control equipment.

Management realized that not only are most of the materials and equipment on the floor flammable in varying degrees, but also that the floor is unoccupied during nighttime hours. A fire flashing at 3 a.m., for example, could go unnoticed until a watchman made his routine rounds, or until it got so out of control that it could not escape notice.

"We decided to provide an automatic fire extinguishing system for the paint rooms and fire detectors for all other work-machinery areas," says Chief Engineer Joseph Walsh. "With these protective devices we would automatically nip in the bud any fire in the paint rooms and quickly get our own fire fighters and the municipal department on the

Partial view of one of the paint-mixing rooms on the nineteenth floor shows a rate-of-temperature-rise detector for the carbon dioxide extinguishing system (right top in wire cage) and carbon-dioxide discharge nozzle above door at right. Electrical fixtures are explosion-proof.

Chief Engineer Joseph Walsh explains to workman how carbon dioxide fire-extinguishing system for the hotel's paint mixing rooms can be actuated by pulling lever at carbon dioxide cylinder location.



Right: If carbon dioxide system or any fire detector on nineteenth floor is actuated, alarms sound locally, also at desk in second basement manned around the clock. Alarm bells and associated red lights are for nineteenth floor carbon dioxide system, nineteenth floor fire detector system, and second basement sprinkler system (water flow alarm).

scene to tackle any slower spreading fire in the other areas."

A primary consideration in installing the carbon dioxide system was to eliminate the possibility of water damage to the expensively decorated public rooms on the floor below.

Working with Arthur Litchfield, representative of Walter Kidde & Co. in the Pittsburgh area, the Penn-Sheraton installed a carbon dioxide system for the paint rooms. These rooms adjoin and each measures about 18 by 40 ft.

If fire flashes in a paint room, ceiling-mounted rate-of-temperature-rise fire detectors trip seven 75-lb. cylinders of fire-smothering gas and also open a valve which connects piping from the "in-trouble" paint room to the carbon dioxide supply. The gas under its own pressure passes from its cylinder to the paint room where it discharges from nozzles in sufficient volume to a degree insufficient to support combustion. Fire is smothered in seconds.

Carbon dioxide is an inert gas and a nonconductor of electricity. It cannot damage materials or motors which it may contact. Following discharge, it soon dissipates into the atmosphere, leaving no mess to be cleaned up.

Built into the system's piping is a pressure-operated switch which, when the system actuates, causes alarms to sound on the nineteenth floor and also in the hotel's second basement at a location manned around the clock.

Fire doors. It is important that doors of paint storage and mixing rooms close, if temperatures reach a dangerous level. Doors into and between the two paint rooms are equipped with self-closing fusible links which function automatically if the temperature reaches 135 F.

Only explosionproof electrical equipment is installed in the rooms, and "No Smoking" is an established rule for the entire floor.

For the other work-machinery rooms on the nineteenth floor, fixed temperature thermostats were installed on approximately 30-ft ceiling centers. They are set to sound an alarm if temperatures in any protected area reach 180 F. Alarms sound in the same locations as do those for the paint rooms.

When an alarm sounds in the basement, maintenance personnel notify the hotel's main switchboard, which notifies the assistant manager on duty and the municipal fire department. Simultaneously, hotel staff fire fighters proceed quickly to the scene of the fire via an express elevator.

Water hose racks are provided for use on fires in ordinary combustible materials, and portable carbon dioxide extinguishers are provided for use on flammable liquid or electrical fires.

IDEAS THAT WORKED

Devices and Ideas to Help Your Safety Program

By Arthur S. Kelly, Industrial Department, NSC

Changing Band Saw Blades

SHOPS have their pet methods for shearing metal-cutting band saw blades to length before welding. Most methods require the full length of the blade to be placed in a passageway where a safety problem is usually created.

The photograph shows a method using conventional electrical conduit bent and blocked off to proper length. The conduit is secured to the side of a shear in a bracket which permits the conduit to swing freely.

The blade is fed from the bulk roll into the conduit until the inter-blade strikes against the plug which blocks the other end of the conduit.

Since the conduit can swing freely, it also serves as a holder for the blade as it is being butt-welded.

George Mackanic, industrial safety engineer at the Lawrence Radiation Laboratory, University of California, Livermore, Calif., who submitted this idea, claims it is faster, less bother, and safer to replace a blade using the conduit holder. The blade is kept out of the work area and always under control. This device, according to Mr. Mackanic, was developed by Henry J. Schultz, a mechanical technician in the laboratory.

Grab Irons

HERE'S an example of cooperation in a safety committee. The Employees Safety Committee of the Erie Plant, Pickands Mather & Company, discussed the need for a hand support on company trucks.

Henry Fondie, pit truck driver and chairman of the Erie Safety Committee, demonstrates the results of the cooperation in the safety committee.

The grab irons, welded to the hood of the sturdy four-ton mine haulage truck, provide a firm hand support and also aid in removing the hood for maintenance purposes. Submitted by Al Kolu, Pickands Mather & Company, Duluth, Minn.

JANUARY WINNER

"Accident Control Chart" was the winner in last month's issue. E. H. Fink, supervisor of safety and training at American Can in Brooklyn, adapted a quality control chart to give a running picture of work injury experience. Number of accidents is shown by a peaks-and-valleys type of graph, while accidents by type are shown with tally marks.

Arm Band

WE LIKE repeaters—especially from a previous contributor whose idea did not win an award. For this reason we are pleased to present the idea shown here.

The arm band is worn for 30 days by all new employees to identify them as such, and to encourage all other plant personnel to help the new employee develop safe work habits and practices.

The fabric bands are 2½ in. wide and 12 in. long. Each one has spring steel inserts on both edges which make the arm band cling to the arm, but without any discomfort, even after being worn for eight hours.

The edges of the band are painted with a luminous paint, one edge being painted yellow and the other red. The arm band material is available commercially. Anyone wanting more information can write to the contributor of this idea, Charles A. Wooding, Wallingford Steel Company, Wallingford, Conn.

A NATIONAL SAFETY COUNCIL TECHNICAL SERVICE

CHEMICAL SAFETY REFERENCES

Copies of this data sheet will be available for order within 30 days

1. The literature on chemical safety is widely scattered, and the person seeking specific data on safe handling of a particular compound must spend considerable time searching for information. This data sheet, therefore, has been prepared as a guide to a number of valuable references.

2. Often it is possible to obtain safety information on specific chemicals directly from the manufacturer. The best source of information on fire problems is the National Fire Protection Association, 60 Batterymarch Street, Boston 10, Mass.

3. The references listed in this data sheet are concerned primarily with accident prevention and health protection. The literature cited from the six organizations listed below deals with more than 160 chemical substances and with a number of other subjects directly related to chemical safety. Copies of publications or further information can be secured from these organizations. Their names are abbreviated in the table headings as indicated below:

ASA—American Standards Association, Inc.
70 East 45th Street
New York 17, N. Y.

MCA—Manufacturing Chemists' Association
1825 Connecticut Avenue, N.W.
Washington 9, D. C.

AIHA—American Industrial Hygiene Association
14125 Prevost
Detroit 27, Mich.

NSC—National Safety Council
425 North Michigan Avenue
Chicago 11, Ill.

CGA—Compressed Gas Association
11 West 42nd Street
New York 36, N. Y.

This data sheet is one of a series published by the National Safety Council, reflecting experience from many sources. Not every acceptable safety procedure in the field is necessarily included. This data sheet should not be confused with American Standard Safety codes, federal laws, insurance requirements, state laws, rules and regulations, or municipal ordinances.

ACSC—Association of Casualty and Surety Companies
Accident Prevention Department
60 John Street
New York 38, N. Y.

4. The 1959 threshold limit values, TLV, (maximum acceptable concentration, MAC) given in the table are those set by the American Conference of Governmental Industrial Hygienists. The full list of threshold limit values is revised annually by the ACGIH and is published annually in the *AMA Archives of Industrial Health*. Single copies of the list are available from the secretary of the ACGIH, Bureau of Industrial Hygiene, State Department of Health, Hartford, Connecticut, or from the American Medical Association, 535 North Dearborn, Chicago, Ill.

5. The letters "HG" appearing under the heading "AIHA" indicate that material on the particular subject can be found in the American Industrial Hygiene Association's *Hygiene Guide*. Under the other headings, the publisher's number for the specific publication is given.

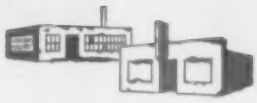
ACKNOWLEDGMENT

This data sheet was prepared by Howard H. Fawcett, Secretary, Chemical Section, National Safety Council. It has been extensively reviewed by members of the National Safety Council and by representatives of chapters of the American Society of Safety Engineers. It has been approved for publication by the Publications Committee of the Industrial Conference of the Council.

	ASA	MCA	AIHA	NSC	ACSC	CGA	1959 TLV(MAC) in ppm
acetaldehyde		SD-43	HG				200
acetic acid		SD-41	HG	D-410	C-52		10
acetic anhydride		SD-15					5
acetone			HG	D-398	C-46		1000
acetylene		SD-7				G-1	
acetylene tetrachloride					C-9		
acid plant				D-210			
acid, removing from carboys				D-390			
acids, mixed		SD-65					
acrolein				D-436	C-66		0.5
acrylate, methyl and ethyl		in preparation					methyl 10 ethyl 25
acrylonitrile		SD-31	HG		C-65		20
adipic acid				D-438	C-68		
allyl chloride					C-42		5
aluminum chloride		SD-62					
aluminum chloride, anhydrous				D-435			
ammonia, anhydrous		SD-8	HG	D-251		G-2	100
ammonia, aqua		SD-13					100
ammonium dichromate		SD-45					
ammonium nitrate		A10 (fertilizer grade)		in preparation		P-3	
amyl acetate			HG	D-208			200
aniline		SD-17	HG	D-409			5
antimony and its compounds		SD-66		D-408			0.5 mg/cu m
arsenic and its compounds		SD-60		D-297			0.5 mg/cu m
arsine			HG				0.05
asphalt				D-215			
atmospheric contaminants		Air Pollution Manual			C-37		
benzene (benzol)		SD-2	HG	D-308	C-26		25
benzyl chloride		SD-69					1
beryllium			HG		C-1		2 micrograms /cu m
betanaphthylamine		SD-32					
boron hydrides		in preparation	HG	in preparation			diborane 0.1 pentaborane 0.01
bromine		SD-49		D-313	C-49		0.1
1, 3-butadiene		SD-55					1000
butyl alcohol (butanol)			HG				100
cadmium			HG	D-312			(oxide fume) 0.1 mg/cu m
calcium carbide		SD-23					
carbon dioxide (see also dry ice)				D-397			5000
carbon disulfide	Z37.3	SD-12	HG	D-341	C-40		20
carbon monoxide	Z37.1		HG	D-415			100
carbon tetrachloride	Z37.17	SD-3	HG	D-331	C-6		25
carboy bottle (ICC-1A)		C-3					
carboy bottle and closure (ICC-1D)		C-3A					
carboys (ICC-1A), consignees		C-2					
carboys (ICC-1A), shippers		C-1					
carboy stoppers		C-4					
caustic liquor room				D-214			
caustic potash		SD-10					
caustic soda		SD-9		D-373			2 mg/cu m
chemical burns				S.P.P. Chem. 3			
chemical laboratories		Safety in the Chemical Laboratory (book)		S.P.P. No. 60			
chlorates		SD-42	in preparation	D-371	C-62		
chlorine				D-207	C-43		1
chlorobenzene					C-20		75
chloroform					C-16		50
chlorosulfonic acid		SD-33					
chlorowaxes (electrical insulating)				D-307			
chromic acid	Z37.7	SD-44	HG				0.1 mg/cu m
cresol		SD-48					5
cyanides and metal wastes					C-5		5 mg/cu m
cyclohexane		SD-68					400
cyclopropane						P-2	400
DDT insecticides				D-303			1 mg/cu m
dichloroethylene					C-14		200
dichloroethyl ether, B, B'					C-19		15
dichromates, sodium and potassium		SD-46					
diethylene triamine		in preparation					

	ASA	MCA	AIHA	NSC	ACSC	CGA	1959 TLV(MAC) in ppm
dimethylaniline					C-67		5
dimethyl formamide			HG				20 (tentative)
dimethyl sulfate		SD-19			C-53		1
2, 4-dinitrophenol			in preparation				
drums, fiber—handling and storage		D-50					
drums (ICC-17C and 17E), flammable liquids		D-33					
drums, steel (ICC-5A), consignees		D-31					
drums, steel (ICC-5A), shippers		D-30					
dry ice (CO_2)				D-397		P-2	5000
epoxy resins					C-64		
ethyl acetate		SD-51					400
ethyl alcohol (ethanol)			HG	D-391			1000
ethyl benzene			HG				200
ethyl chloride		SD-50					1000
ethyl ether (diethyl ether)		SD-29		D-396	C-36		400
ethylene						P-2	
ethylene chlorohydrin					C-22		5
ethylene dibromide			in preparation				25
ethylene dichloride (1, 2-dichloroethane)		SD-18	HG	D-350	C-15		100
ethylene glycol monomethyl ether acetate		in preparation	HG				25
ethylene oxide		SD-38			C-55		50
faucets		D-32					
ferrosilicon				D-352			
flammable liquids					C-23		
fluoride-bearing dusts and fumes			HG	D-442			2.5 mg/cu m
fluorine			HG		C-61		0.1
formaldehyde		SD-1	HG	D-342			5
germanium and its compounds					C-58		
helium						P-2	
hydrazine			HG		C-57		1
hydrochloric acid		SD-39			C-30		5
hydrocyanic acid		SD-67	HG				10
hydrofluoric acid		SD-25	HG		C-59		3
hydrogen						G-5	
hydrogen peroxide		SD-53	HG				1 (90%)
hydrogen sulfide	Z37.2	SD-36	HG	D-284	C-38		20
iodine				D-457			0.1
isopropylamine		SD-72					5
labels, warning		L-1					
lead	Z37.11		HG	D-443			0.2 mg/cu m
lead oxides		SD-64					
lime				D-241			
magnesium				D-426			(oxide fume) 15 mg/cu m
maleic anhydride					C-71		
manganese	Z37.6			D-306			6 mg/cu m
mercury	Z37.8		HG	D-203	C-60		0.1 mg/cu m
mercury fulminate				D-309			0.01 mg/cu m
metal cleaning agents					C-4		
metal hydrides				D-462			
methyl alcohol (methanol)	Z37.14	SD-22	HG	D-407	C-24		200
methylamines		SD-57					
methyl bromide		SD-35	in preparation		C-41		20
methyl chloride		SD-40					100
methylene chloride		in preparation	HG	D-474	C-17		500
methyl ethyl ketone (butanone)			HG		C-51		250
naphthalene		SD-58		D-370			
nickel carbonyl			HG				0.001
nitrate-nitrite salt baths				D-270	C-35		
nitric acid		SD-5			C-13		10
nitrobenzene		SD-21			C-33		1
nitrocellulose—handling wet		N-1					
nitrogen dioxide	Z37.13		HG	D-206	C-34		5
nitrous oxide				D-206		P-2	
organic isocyanates					in preparation		
ortho-dichlorobenzene		SD-54			C-21		50
oxalic acid				D-406			
oxygen						G-4	
oxygen lances				D-360			

	ASA	MCA	AIHA	NSC	ACSC	CGA	1959 TLV(MAC) in ppm
oxygen, liquid				D-283			
ozone			HG		C-63		0.1
paraformaldehyde		SD-6					
pentachlorophenol			HG		C-32		0.5 mg/cu m
perchloric acid		SD-11		D-311	C-44		
perchloroethylene (tetrachloroethylene)		SD-24			C-11		200
phenol		SD-4	HG	D-405			5
phosphoric acid		SD-70	HG				1.0 mg/cu m (tentative)
phosphoric anhydride		SD-28					
phosphorus, elemental		SD-16		D-282			(yellow) 0.1 mg/cu m
phosphorus oxychloride		SD-26					
phosphorus pentasulfide		SD-71					1 mg/cu m
phosphorus trichloride		SD-27					0.5
phthalic anhydride		SD-61			C-73		
polonium-210			HG				
propylene		SD-59					
propylene dichloride					C-18		75
propylene oxide			HG				100 (tentative)
radon and its daughters			HG				
respiratory protection				D-444	C-47		
rockets, amateur				Policy	Z-105		
sacks, shipping		B-1					
selenium and its compounds					C-56		0.1 mg/cu m
silica			HG				more than 50% free silica—5 mppcf 5 to 50%—20 mppcf less than 5%—50 mppcf
sodium bisulfate—(bulk shipment)		S-25					
sodium cyanide		SD-30					
sodium, metallic		SD-47		D-231			
styrene monomer		SD-37			C-48		100
sulfur		SD-74		D-275			
sulfur dioxide		SD-52			C-39		5
sulfuric acid		SD-20	HG	D-325	C-12		1 mg/cu m
tank cars—caustic soda or potash		TC-3					
tank cars—flammable liquids		TC-4					
tank cars—loading and unloading platforms		TC-7					
tank cars—muriatic and phosphoric		TC-2					
tank cars—phenol		TC-6					
tank cars—sulfuric and nitric		TC-1					
1,1,2,2-tetrachloroethane		SD-34			C-9		5
tetrahydrofuran			HG				200
tetryl				D-218			1.5 mg/cu m
textile bleaching compounds				D-343			
thorium					C-72		
titanium			HG				
toluene		SD-63	HG	D-204	C-28		200
toluene 2, 4-diisocyanate (TDI)		SD-73	HG	in preparation	C-70		0.1 (tentative)
1,1,1-trichloroethane (methyl chloroform)			HG	D-456	C-10		500
trichloroethylene	Z37.19	SD-14	HG	D-389			200
tricresyl phosphate					C-50		0.1 mg/cu m
trinitrotoluene (TNT)				D-314			1.5 mg/cu m
turpentine				D-367			100
uranium			in preparation		C-69		(insoluble) 0.25 mg/cu m
vanadium pentoxide			HG				dust 0.5 fume 0.1
vinyl acetate		SD-75					
vinyl chloride		SD-56					500
waste disposal, industrial				ISSP—Chem 7	C-3,5,7,27,45		
waste—radioactive materials					C-27		
wastes, flammable					C-31		
welding, electric arc				D-469 (inert gas)	C-2		
xylene	Z37.10		HG	D-204			200
zinc oxide				D-267			(fume) 15 mg/cu m
zirconium				D-382			5 mg/cu m



SMALL BUSINESS and ASSOCIATIONS

By RAYMOND C. ELLIS, JR., and JOHN T. CURRY

Small Business Program Staff, National Safeyt Council

Are Your Accident Costs Increasing?

Many organizations have reviewed their 1959 experience and found that the cost of accidents is steadily increasing. Where a sincere and effective effort has been made to reduce accident experience and costs, this is an extremely disheartening trend.

It proves to be rather difficult to convince management that manual rates, rather than a failure to provide good safety services, are largely responsible for this cost problem.

If rates established for the industry are the problem, there is something that can be done through your local, state, or national association. You have frequently read success stories on this page, as various associations have reported on the effectiveness of a cooperative safety effort on behalf of their membership.

For example, four associations selected at random from the manufacturing and food areas reported savings in excess of 25 million dollars in the past decade.

As a larger organization you might have been concerned about the inability of reaching the smaller organization. Development of a safety program through a safety committee within the association can assist in getting safety aids to that small member.

1959-60 Small Business And Associations Committee

In addition to members of the Small Business and Associations Committee assigned from the Industrial Conference of the National Safety Council, a number of members-at-large are assisting in the development and extension of this program through a regional organization.

Local representatives from your area will welcome comments or suggestions that you might care to make for continued growth of this activity. This list of members is provided for your information:

OFFICERS

Frank Laderer (Chairman), Dir. of Saf., Nationwide Insurance Co., Columbus, Ohio

W. M. Allison (Vice Chairman), Sr. Saf. Dir., British Columbia Lumber Manufacturers Assn., 550 Burrard St., Vancouver 1, B. C., Canada

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William M. Caldwell, Asst. Secy., Gray Iron Founders' Society, Inc., National City-E. 6th Bldg., Cleveland 14, Ohio

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Gustav L. Nordstrom, Exec. Dir., Folding Paper Box Assn. of Am., 222 W. Adams St., Chicago 6, Ill.

Ansell I. Raney, Saf. Dir., Phillips Chemical Co., Bartlesville, Okla.

Wilbur Smale, Vice President and Dir. of Eng., Michigan Mutual Liability Co., 28 W. Adams Ave., Detroit 26, Mich.

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John M. Convery, Ind. Rel. Consultant, National Assn. of Manufacturers, Two E. 48th St., New York 17, N. Y.

Robert Hagopian, Asst. Mgr., Acc. Prev. Dept., Assn. of Casualty and Surety Cos., 60 John St., New York 38, N. Y.

Philip E. Robinson, Dir. Communications, Tyrex, Inc., Empire State Bldg., New York 1, N. Y.

John H. Seeton, Secy., Pennsylvania Manufacturers Assn., Finance Bldg., Philadelphia 2, Pa.

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Harry Korab, Technical Director, Amer. Bottlers of Carbonated Beverages, 1128 16th St., N.W., Washington 6, D. C.

James P. Low, Mgr., Assn. Service United States, 1615 H St., N.W., Washington 6, D. C.

Albert S. Roistacher, Asst. Gen. Mgr., Nat'l. Assn. of Bedding Mfg., 724 Ninth St., N.W., Washington 1, D. C.

Admiral J. W. Stryker, Exec. Dir., Structural Clay Prod., Inst., 1520 18th St., N.W., Washington 6, D. C.

STAFF REPRESENTATIVES

Raymond C. Ellis, Jr., Director, Small Business and Associations Division

John T. Curry, Association Consultant

As a smaller operator you might be concerned with your inability to assign an individual to safety responsibility in your company. By obtaining safety services through the cooperative efforts of your association and the National Safety Council, much can be accomplished to reduce accidents on your premises and to prevent accidents by sharing some of the "know-how" that can only be obtained through a cooperative effort.

Check on the safety activities of your association. If they are not currently providing such services, suggest they contact the NSC Small Business and Association Division so a mutually beneficial program might be developed during the coming year. It will pay dividends to the industry as well as to your individual company.

Management's own tests give you proof...*

Better Hand Protection Always Costs Less

No need to spend further time wondering which work gloves offer the safest hand protection at the most reasonable cost to you or your employees.

Edmont, developer of modern coated gloves for every job from steam boiler making to rocket fuel handling, offers the kind of fact-and-figure proof that safety-conscious management expects ... factual case history results of on-the-job comparison tests made by America's leading corporations. For example:

CASE No. 639: *Feeding burr-edged metal sheets into cutting machine, an Edmont-recommended glove gave 2½ times longer protection than leather gloves previously used ... cut costs 55%.*

CASE No. 661: *Using MEK on aircraft paint-stripping operation, an Edmont-recommended glove gave 3 times longer protection than ordinary neoprene gloves previously used.*

CASE No. 694: *Handling slit steel, an Edmont-recommended glove gave 7 times longer protection than 18 oz. double-palm cotton gloves ... cut costs 69%.*

Thousands of cases like the above prove that management *can* improve safety and reduce gloving costs at the same time. Edmont's new Super Neox glove, which was used in the above tests, is a neoprene-coated glove with positive non-slip grip, wet or dry. Its tougher compound, of reinforced neoprene, also provides maximum all-around resistance to oils, solvents, cuts and abrasion.

FREE TEST OFFER TO LISTED FIRMS: We make many types of neoprene, natural rubber and plastic coated gloves to fit different job requirements. Tell us your operation, materials handled, temperature condition. We will recommend correct glove and send samples for on-the-job testing. Write Edmont Manufacturing Company, 1205 Walnut Street, Coshocton, Ohio. In Canada, write MSA, Toronto.

**Company names and full details on request.*

Edmont

JOB-FITTED GLOVES

Circle Item No. 10—Reader Service Card

HOOT MON— here's

Iron Age *presents the*

NEW "HIGHLANDER" TWINS

SAFETY SHOES

TANNED WITH

SCOTCHGARD®*

BRAND

LEATHER PROTECTOR

Here's another extra that Iron Age has made available to add longer wear and comfort to safety shoes. In our new "Highlander" twins glove leather is treated with "SCOTCHGARD" Brand Leather Protector. Such treated leather remains flexible at much lower temperatures. It is more porous—"breathes" better and is more comfortable on the foot.

"Scotchgard" Brand Leather Protector imparts a resistance to water, acids, alkalies, mold and perspiration. Hence "Highlander" safety shoes will hold their shape and stay new looking longer.

Iron Age "Highlanders" combine rugged styling with the popular casual look. They are toned in distinctive autumn brown and custom crafted with such features as cushion insoles and Goodyear Cobra oil-proof soles for safety underfoot. Ask your nearby Iron Age representative to show you these distinctive value leaders or write us, and he will call. Iron Age Division, H. Childs & Co., Inc., Pittsburgh 12, Pa.

* *Registered trademark, Minnesota Mining and Manufacturing Company*

Circle Item No. 11—Reader Service Card

thrifty comfortable steel toe foot protection

No. 673

SIZES

Both Styles

C	6-13
D	6-13
E	6-13
EEE	6-13

No. 674

Iron Age

Iron Age Safety Shoes

The Safety Shoe For Industrial America

SOON!

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SAFETY INSURANCE

Biltrite Safety Soles protect against more hazards . . . more comfortably. They are lighter, tougher . . . specially compounded for both safety and durability.

BILTRITE SAF-T-STEP NEOPRENE CORK SOLES

- The one Neoprene Cork Sole that does not compromise wear for weight
- Resist oil, grease, chemicals and acids

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- Rugged — greater abrasion resistance
- Added resistance to oil, grease, acids and chemicals

BILTRITE SUPER-LITE CORK SOLES

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BILTRITE TRU-GLIDE NEOPRENE SOLES

- Provide extra traction and gliding comfort
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FROM THE WORLD'S LARGEST PRODUCER OF SHOE SOLING MATERIALS

President's Conference Plans Near Completion

DR. JOSEPH KAPLAN, chairman of the United States Commission for the International Geophysical Year and professor of physics at the University of California at Los Angeles, will take part in the three-day 1960 President's Conference for Occupational Safety.

Scheduled for March 1-3 in Washington, D.C. the Conference will feature addresses by President Eisenhower, Secretary of Labor James Mitchell, and other notables.

Speaking on "The Changing Nature of Work," Dr. Kaplan will be the first speaker at the March 1 plenary session titled "The 'Unchanging' Nature of Man in a Changing Environment." Ewan Clague, commissioner of the Department of Labor's Bureau of Labor Statistics, will discuss "The Changing Nature of Our Work Force" at the same session. Speaker for "The 'Unchanging' Nature of Man" is to be announced.

Eight workshops are slated for the second day of the Conference. In the morning the subjects and moderators are:

"Setting Safety Standards for Tomorrow's Materials"—Cyril Ainsworth, American Standards Association.

"New Emphases in Training"—Leon Brody, New York University.

"Little-Known Facts about Injury Occurrence"—Anthony J. Bryski, Pennsylvania Department of Labor and Industry.

"Emerging Environmental Hazards"—Harold J. Magnuson, M.D., U.S. Public Health Service.

Afternoon workshops include:

"Wanted! Leaders for Safety"—Earl Cheit, University of California.

"Communication—A Bridge for Safety"—Arthur H. Motley, Parade Publications, Inc.

"Why and How to Investigate Accidents"—John J. Hanselman, American Telephone and Telegraph Company, and James A. Brownlow, Metal Trades Department, AFL-CIO.

"Health Maintenance—Its Contribution to Job Safety"—Logan T. Robertson, M.D., Occupational Health Services.

Howard Pyle, president of the National Safety Council, will address the final plenary session on the morning of March 3. Conference conclusions and suggested action will be submitted at this time.

Three major goals have crystallized from the six Conferences held during the past decade:

1. To focus national attention on the importance of occupational safety and the continuing need to do something about it.

2. To identify and emphasize emerging problems in occupational safety, foreshadowed by unprecedented expansion and changes in the size and composition of the nation's work force, and by the impact of explosive technological advances in American industry.

3. To obtain a broad consensus of views and to formulate recommendations on matters requiring consideration or action by appropriate groups concerned with job safety.

Several thousand persons attended the 1958 Conference. A similar number of participants is expected this year, representing American business, agriculture, labor, federal, state and local governments, insurance, education, health, and private safety organizations.

Delegates may register in advance by responding before February 17 to invitations issued early in 1960. (Reply to: The President's Conference on Occupational Safety, U.S. Department of Labor, Washington 25, D.C.)

Conference participants are chosen because of their leadership, responsibility, and interest in advancing safety in the nation's workplaces. Since basic legal responsibility for

—To page 98

PAYOLA

WHO ARE YOU paying off, Dad?

The mood of the mode is pay off now and worry about the consequences later. We buy our way in or our way out, as the case may be. Anything to bulldoze our way to the objective, 'cause everything and everyone has a price.

The kids are paid off by letting them have their way, to keep peace and quiet around the house.

The spouse is paid off by letting her handle the loot, so she'll quit nagging about the take-home pay.

Grafting politicians are paid off when John Q. Citizen doesn't bother to vote.

The Commies are paid off by our criticizing the government without putting in an oar to help better it.

A poor educational system is paid off by not taking personal interest in the kids' schooling.

Poor TV programs are paid off by buying the sponsors' products.

The Devil is paid off by sleeping, instead of getting out of the sack and into a pew on Sunday.

Phonies, frauds, and confidence artists are paid off by not reporting them to the authorities.

Our egos are paid off by thinking we're better than the next guy and above danger warnings, safety rules, and safety devices.

Pay offs are made in many ways other than with green stuff. Some are a great deal more lethal, too, when you lay an eye, hand, lung, career, or family on the line to pay off a moment of haste, neglect, inattention or foolishness.

You can't buy your way out of a pine box. You can't buy back a severed finger, mashed leg, or punctured retina. You can't buy back a mangled little girl or boy.

Latch on to safety, Dad. Payola is for the pigeons.

ROBERT D. GIDEL

ANY MAN CAN WEED-PROOF 10,000 SQUARE FEET IN TEN MINUTES...with UREABOR

–just apply **UREABOR**® *and you can forget about weeds for the season!*

Think of the savings—in time *and* money—this weed killer offers you! UREABOR is the special granular weed killer meeting all requirements of industrial users. A little does a lot! One DRY application of only 1 to 2-lbs. per 100 sq. ft. creates weed-free areas anywhere for a whole year! UREABOR is safe, effective, economical and convenient. It's always ready for use direct from the bag—in the easiest possible way—to destroy weeds and protect your property from grass fires.

A SPECIAL SPREADER simplifies and speeds UREABOR applications at low rates with accuracy. Spreader holds enough UREABOR to treat 1250 sq. ft. without refilling; weighs a mere 6 lbs. Width of the swath can be adjusted.

UREABOR IS 2 HERBICIDES IN 1... The plant-destroying powers of 2 proven herbicides are combined in this granular complex of sodium borates and substituted urea (3-P-Chlorophenyl, 1-1, dimethylurea) to yield superior, non-selective results.

STANDARD PACKAGE IS 50 LBS. UREABOR is packed in multiwall paper sacks for easy handling—easy storing. A convenient package, easily disposable, for spotting at predetermined intervals to facilitate large-area applications.

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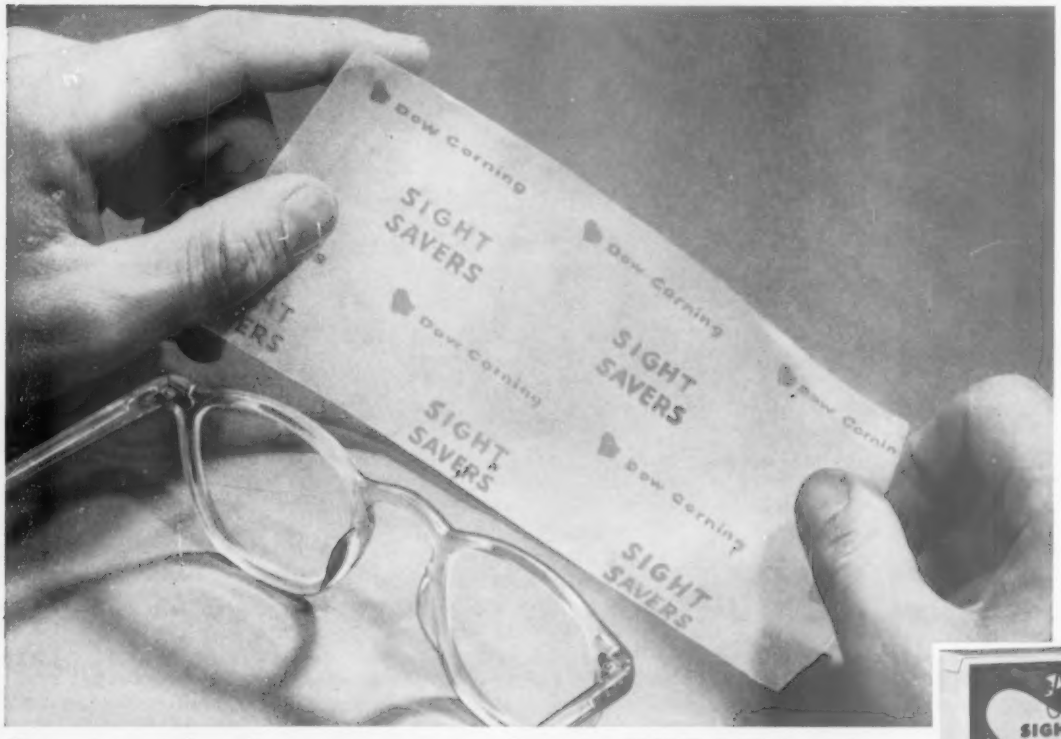
NEW SIGHT SAVERS



Every tissue embossed . . . your guarantee of genuine SIGHT SAVER quality.

FREE WALL DISPENSERS!

***$2.50 value each . . . free with your purchase and continued use of* SIGHT SAVERS**

- **Strong, heavy-gauge steel . . . pilfer proof.**
- **No waste — delivers just one tissue at a time.**
- **No mess — no liquids, no bottles, no extras.**
- **Never runs out — can be refilled before empty.**
- **Easy to install — compact, only 3½" x 8" overall.**
- **Attractive colors — safety green, white or black.**

...by far, the most efficient lens tissues you can supply!

New soft-textured, embossed finish

Gives greatest cleaning and polishing action --- no slip, easier to grip!

Completely soaked in silicones

Use either side of the tissue. Remember, it's the silicones on the tissue that do the work and SIGHT SAVERS have at least twice the silicone content of other tissues . . . it's as simple as that!

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- Nationally advertised; known, preferred and purchased by millions of satisfied users. You don't have to "*sell*" workers on using SIGHT SAVERS . . . your employees are already *pre-sold.*
- Exactly the right size to clean glasses most efficiently . . . economically.
- Endorsed by leading opticians . . . meet Federal specification UU-P-313d for lens cleaning tissues.

*Promote eye safety the most popular, most effective, most economical way . . . the SIGHT SAVER way! Order from your safety supply distributor.**

* In Canada from any branch of The Safety Supply Company.

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COMING EVENTS

in safety and related fields

Feb. 9-11, College Park, Md.
Fourth Annual Industrial Fire Protection Short Course. (Fire Service Extension Bldg., U. of Maryland). Robert C. Byrus, director, Fire Service Extension Dept., U. of Maryland, College Park. Md.

Feb. 16-17, San Francisco, Calif.
Tenth Annual California Statewide Meeting of Governor's Industrial Safety Conference. (Fairmont Hotel). Michael Flagg, coordinator, Governor's Industrial Safety Conference, c/o Dept. of Industrial Relations, 965 Mission St. (Room 400), San Francisco, Calif.

Mar. 1-3, Washington, D. C.
The President's Conference on Occupational Safety. Secretary of Labor James P. Mitchell, general chairman, Dept. of Labor, Washington, D. C.

Mar. 6-8, Jacksonville, Fla.
Southern Safety Conference and Exposition. (Robert Meyer & George Washington Hotels). W. L. Groth, executive director, P.O. Box 8927, Richmond 25, Va.

Mar. 9, Milwaukee, Wis.
Foremen's Safety School. R. W. Gillette, executive director, Wisconsin Council of Safety, Inc., 1 West Wilson St.. Madison, Wis.

Mar. 9-10, Philadelphia, Pa.
Twenty-sixth Annual Regional Safety and Fire Conference and Exhibit. (Bellevue-Stratford Hotel). Harry H. Verdier, executive director, Safety Council, Chamber of Commerce of Greater Philadelphia, 121 S. Broad St., Philadelphia 7, Pa.

Mar. 15-16, Fort Wayne, Ind.
1960 Northeastern Indiana Safety Conference and Exhibit. Ivan A. Martin, manager, Safety Council, Chamber of Commerce of Fort Wayne. Ind.

Mar. 15, 22, 29, Baltimore, Md.
Fourth Annual Occupational Safety Seminar (Eastern High School). Cosponsored by Baltimore Safety Council, Maryland Department of Labor and Industry, and Safety Engineering Club of Baltimore. Earl W. Smith, managing director, Baltimore Safety Council, 1511 Guilford Ave., Baltimore 2, Md.

Mar. 21-22, Boston, Mass.
Thirty-ninth Annual Massachusetts Safety Conference and Exhibit. (Hotel Statler Hilton). Bert Harmon, manager, Massachusetts Safety Council, 54 Devonshire Street, Boston 9, Mass.

Mar. 23, Madison, Wis.
Wisconsin Canners Safety Institute, R. W. Gillette, executive director, Wisconsin Council of Safety, Inc., 1 West Wilson St., Madison, Wis.

Mar. 27-30, Dallas, Tex.
Annual Texas Safety Conference (Adolphus Hotel). J. O. Musick, general manager, Texas Safety Association. Inc., 830 Littlefield Bldg., Austin, Tex.

Mar. 29-30, Oakland, Calif.
Eighth Annual Northern California Safety Congress and Exhibits (Hotel Claremont). Clinton W. Dreyer, Eastbay Chapter, NSC, 1322 Webster St., Oakland 12, Calif.

Mar. 29-31, Lafayette, Ind.
Seventh Annual Industrial Fire Control Conference (Purdue University). Prof. Shelby Gallien, seminar director, Public Safety Institute, Purdue University, Lafayette, Ind.

April 4-5, Toronto, Canada
Industrial Accident Prevention Associations Annual Conference (Royal York Hotel). R. G. D. Anderson, general manager, IAPA, 90 Harbour St., Toronto 1, Ont., Canada.

April 5-7, Pittsburgh, Pa.
Thirty-fifth Annual Western Pennsylvania Safety Engineering Conference and Exhibit (Pittsburgh Hilton Hotel). Harry H. Brainerd, executive manager. Western Pennsylvania Safety Council, 305 First Federal Building, 600 Grant St., Pittsburgh 19, Pa.

April 11-13, Los Angeles, Calif.
Seventh Annual Western Safety Congress and Exhibits (Ambassador Hotel). Joseph M. Kaplan, manager, Greater Los Angeles Chapter—National Safety Council, 3388 W. 8th St., Los Angeles 5, Calif.

April 12-14, Detroit, Mich.
Michigan State Safety Conference. (Sheraton Cadillac Hotel). Ben Duguid, c/o All State Insurance Company, Box 5300—Seven Oaks Station, 16130 Northland Dr., Detroit 35, Mich.

April 12-14, Buffalo, N.Y.
Twentieth Western New York Safety Conference and Exhibit (Hotel Statler-Hilton). Clifford H. Seymour, Western New York Safety Conference, Box 315, Niagara Falls, N.Y.

April 19-21, Columbus, Ohio.
Thirtieth All-Ohio Safety Congress and Exhibit (Neil House). Arthur W. Moon, Congress manager, Third Floor, 400 S. Front St., Columbus 15, Ohio.

April 27-28. Indianapolis, Ind.
Thirteenth Central Indiana Safety Conference and Exhibit (Claypool Hotel). Jack E. Gunnell, Indianapolis Chamber of Commerce Safety Council, 320 N. Meridian St., Indianapolis 11, Ind.

April 27-29, Gainesville, Fla.
Seventh Annual Conference on Accident Prevention Engineering. (University of Florida). Donald B. Wilcox, conference coordinator, U. of Florida, College of Engineering, Gainesville, Fla.

May 2-4, Bethlehem, Pa.
Thirty-third Annual Eastern Pennsylvania Safety Conference (Hotel Bethlehem). Harold A. Seward, secretary-treasurer, Lehigh Valley Safety Council, 602 East Third St., Bethlehem, Pa.

May 4-6, Winston-Salem. N.C.
Thirtieth Annual North Carolina Statewide Industrial Safety Conference (Robert E. Lee Hotel). H. S. Baucom, director of safety, North Carolina Industrial Commission, Raleigh, N. C.

May 5, Watertown, Wis.
Rock River Valley Conference. R. W. Gillette, executive director, Wisconsin Council of Safety, Inc., 1 West Wilson St., Madison, Wis.

Oct. 17-21, Chicago
Forty-eighth National Safety Congress and Exposition. (Conrad-Hilton Hotel). R. L. Forney, secretary, National Safety Council, 425 N. Michigan Ave., Chicago 11.

During our periodic fire drills at Gillette, a Gamewell fire alarm system has proved itself much faster, much more trouble-free than the one it replaced. We appreciate the excellent protective value of the Gamewell system and your aid in engineering it to cover all buildings in our plant area.

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Chief Electrical Engineer
Gillette Safety Razor Co.
Gillette Park, Boston, Mass.

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The Gamewell system endorsed by Engineer Howard Spaulding was carefully designed to protect all lives and property in Gillette's 11 buildings — headquarters of the internationally known manufacturer of razors, blades and other products.

A Gamewell system can be engineered to safeguard your own business from fire losses — including not only irreplaceable human lives but buildings and equipment that can't be renewed at their original costs. It will warn all personnel, signal your local fire department and, if required, will include fire detection units that activate the entire system — instantly — automatically.

Ask your Consulting Engineer about these advantages. Also, a Gamewell Fire Protection Engineer will be glad to give you details about installation requirements, performance and price. Send the coupon below for this service and/or a Gamewell technical manual — without obligation.

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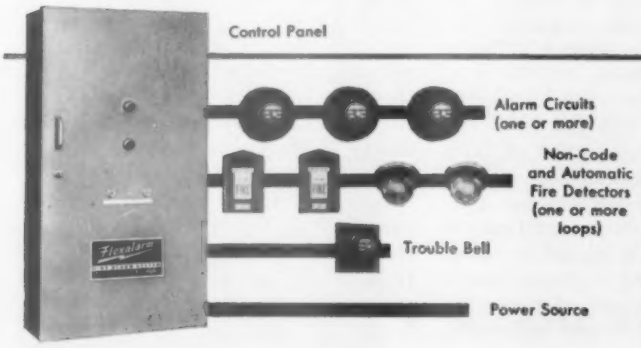
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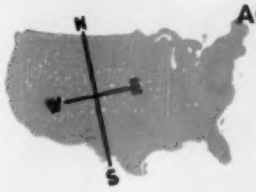


ACTIVITIES

• PROGRAMS

• EVENTS

By THOMAS J. NOLAN

Field Service Department, NSC

Appoints Council Chief

Mayor Lester E. Collins of Springfield, Ill., has appointed J. Glenn McFarland, president of Coe's Book Store, chairman of the newly created Springfield Traffic Safety Council. Mayor Collins said he also has asked various business and civic leaders to serve on the council.

Formation of this council is the result of suggestions made by Robert A. Campbell, state traffic safety coordinator. On November 6, 1959, Campbell spoke at a meeting devoted to traffic safety. He urged adoption of a five-point program to improve traffic safety in Springfield.

"The safety council is being established," the mayor said, "and ideas conceived by the seven-man board should help make Springfield a safer city for motorists and pedestrians."

He also said the safety council would act as "coordinator" between the public and city officials.

The Decade Ahead

The Twin Cities Area Safety Council of St. Joseph, Mich., has used a new approach in presenting their annual report.

In a letter accompanying the report, Justin J. Condon, president of the council, states: "This year the body of the report contains something different . . . a look into the future with an eye to what we must do if we are to continue to reduce accidents.

"Taking our cue from the National Safety Council which is promoting the 'Safety in the Sixties' theme, we too are peering into the next decade to see what changes we must make to keep up with the world."

The council then points out their projects and programs, their hopes and plans. While looking forward to the coming 10 years, they feel they must evaluate the past year to properly focus their attention on the future.

Announce Award Program

The Washington State Safety Council has announced the Governor's Citation Award Program for Washington. The council is anxious to have as many individuals and groups as possible participate in the program.

Governor Albert D. Rosellini of Washington commented in a recent letter: "The Governor's Citation Award Program has been established to recognize outstanding activities of organizations and individuals. It is being coordinated by the Washington State Safety Council.

"It is for individuals in organizations who have given unselfishly of their time and effort that the Governor's Citation Award has been created. It is my hope and desire that every group and person active in traffic safety programs enter this award program."

Oregon Injury Study

A special study to determine the nature and causes of injuries received in late-model automobile accidents began December 1, 1959, in 12 Oregon counties.

Only accidents in rural areas will be included in this research. The study involves completion of extra accident investigation and medical report forms on all accidents concerning 1957-or-later-model cars in which someone is injured or killed.

Data produced in these studies indicates the degree of protection offered by such safety features as improved door locks, energy-absorbing steering wheels, seat belts, and padded dashboards.

Safety Council Federation

The Program Planning Panel of the California Traffic Safety Foundation, made up of representatives of the Foundation and local councils in the state, has formally adopted the title California Federation of Safety Councils.

Historical Note

From the Kansas City, Mo., *Times* of September 27, 1919: "First steps toward organizing here a branch of the National Safety Council were taken yesterday. Henry D. Faxon is temporary chairman."

To New Post

Evett N. Allen, NSC district director for Kentucky, Tennessee, and Arkansas, has resigned (effective January 15) to become assistant city manager of Norfolk, Va.

Surveys Organizations

The Michigan State Safety Commission is making a survey of citizen organizations in the state. Primary attention is being given to the small volunteer groups.

Color Movie on Static Electricity

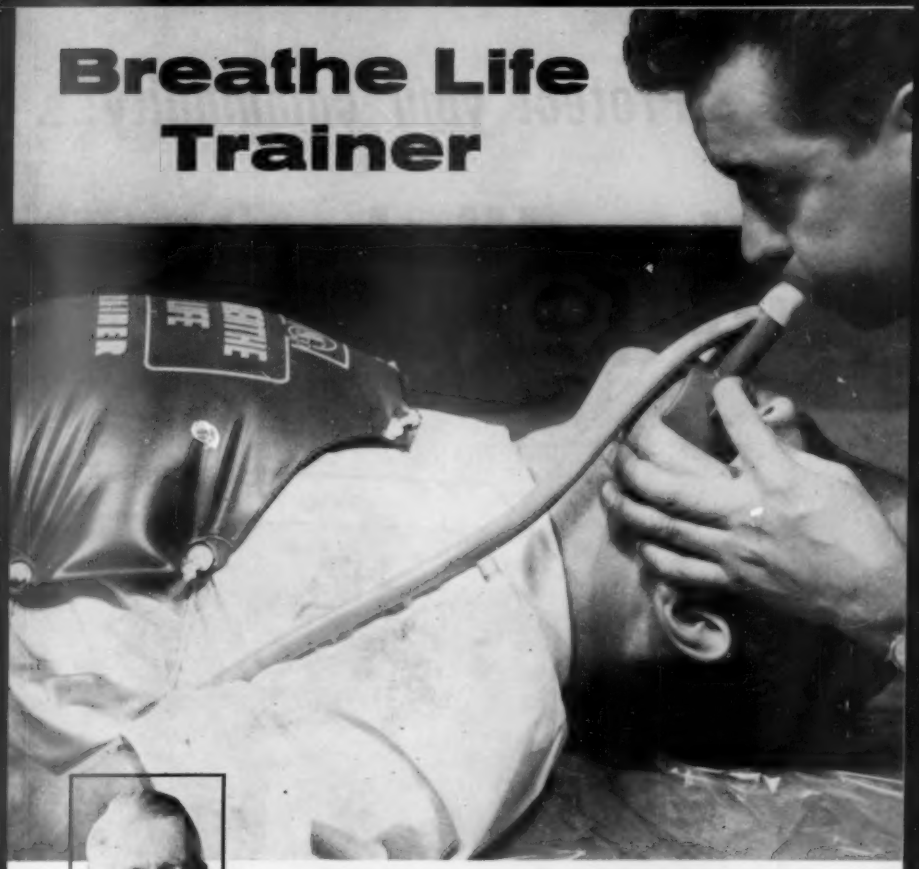
The hazards and control of static electricity on and off the job are dramatically demonstrated in a new 16 mm sound motion picture produced by the American Gas Association's Accident Prevention Committee in cooperation with the U.S. Bureau of Mines.

The 22-minute color movie, entitled "Static Electricity," shows the destructive power of static and how it can be controlled in home and industry. A major portion of the movie is based on a series of demonstrations developed by G. M. Kintz and H. F. Browne of the Bureau of Mines.

Copies of the new film may be purchased for $200, plus shipping charges, from the Order and Billing Department, American Gas Association, 420 Lexington Ave., New York 17.

Circle Item No. 16—Reader Service Card ⟶

Breathe Life Trainer



Practice "Lung" on instructor's (victim's) chest "Rescue Breather" tube with (expendable) mouthpiece attached. Student (rescuer) is ready to demonstrate. Note: Openings. One allows for instructor normal breath, one for trainee breath into the "lung." No breath or mouth contact.

Blowing breath into "lung." Trainee properly located to hold jaw in "jutting out" position, seal nostrils, watch "lung" response.

Trainee hears exhalation of "victim's" breath, readies to blow another breath into "lung." Practices proper breath force and frequency.

At end of practice, trainee's forefingers drop naturally into position as used in actual mouth-to-mouth emergency. (If instructor (victim) has indicated blocked airway, trainee is taught corrective measures.)

Complete instructions for simulating conditions and "Rescue Breathing Technique" packed with each MSco Breathe Life Trainer.

"Bridges the gap between theory and practice"

IN MOUTH-TO-MOUTH ARTIFICIAL RESPIRATION

"Rescue Breathing" (mouth-to-mouth resuscitation) has been universally accepted as the most effective manual method of artificial respiration.

To perform "Rescue Breathing" correctly, training is a *must* as in any other method of artificial respiration.

Mouth-to-mouth resuscitation cannot be taught correctly without a training aid.

The MSco Breathe Life Trainer is the answer. Films and lectures may tell you "what to do" *but* only the Breathe Life Trainer in the hands of a capable instructor teaches you "how to do" it.

The Breathe Life practice lung on the instructor (victim) enables the student (rescuer) to experience true life conditions likely to be encountered, making a breath-by-breath appraisal of rescue situations, simulated by the instructor (victim).

No actual mouth-to-mouth contact necessary. Absolutely sanitary. No contamination in class demonstration.

Now you can train and become proficient; confident in your ability to perform direct mouth-to-mouth, mouth-to-tube, mouth-to-airway, mouth-to-mask, and mask-to-mask resuscitation correctly.

Order now

MSco Breathe Life Trainer. $9.75 each

MSco Mouthpieces for Trainer, $1.25 (box 50)

Medical Supply Company

Rockford, Illinois

Protect your community!...

Stop Highway Fires From

Spreading Disaster!

With the steady increase of highway traffic comes the increasing risk of fires resulting from crashes and collisions.

These fires, always frequent, are often fatal — killing or injuring people at considerable distance. And they threaten your community with death and damage on every local highway, built or building.

The only way you can prevent highway fires from becoming major disasters is to put them out as quickly as possible. Rockwood fire fighting products bring you that positive protection.

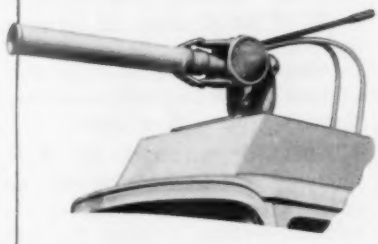
- **Using Rockwood nozzles or turrets, on fire trucks or on the ground, you can hit fires harder.**
- **Using Rockwood FOAM liquid, single or double strength, you can throw a complete, quick smothering blanket over fires in flammable liquids or other combustibles.**

Rockwood nozzles and turrets are designed to fight fires four ways: with solid water stream, solid FOAM stream, FogFOAM and WaterFOG. Rockwood turrets, the most complete specialty line on the market, give fire fighters an extra edge of efficiency.

For over half a century in municipalities throughout the country, Rockwood's highly advanced fire-fighting aids have been proving their ability to save lives and property. Make sure your own department has these most dependable tools to work with . . . Mail the coupon for details on the complete Rockwood line.

Foam Eductor. Introduces FOAM liquid into hose line for use with Rockwood FFF nozzles.

Direct Manual Control Turret. Provides "out-in-the-open" control from cab roof.



Remote Manual Control Turret. Easily handled from driver's seat for fast action.

SG-60 Nozzle With FFF Extension. Discharges straight water stream or WaterFOG, solid FOAM stream or FogFOAM.

Rockwood Double Strength FOAM Liquid. Mixing 3 parts with 97 parts water forms a blanket with proved ability to extinguish spill fires in flammable liquids with maximum speed and safety.

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Engineers Water . . .
to cut fire losses

A Division of The Gamewell Company
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Please send me information on Rockwood fire-fighting products and systems.

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Company.....

City.....*Zone*....*State*.....

Circle Item No. 17—Reader Service Card

CONSULTATION CORNER

Questions on accident prevention, fire protection and occupational hygiene are answered by mail. A few are selected for publication

By L. C. SMITH, Industrial Department, NSC

Identifying Cases

Question: We have a problem in our plant involving the use of compressed gases. For example, we recently had a serious accident when an employee used oxygen in place of nitrogen for inerting.

Are there any standard color codes for identifying compressed gases? It seems that each supplier uses a different color, and there is little uniformity in the colors they use.

Answer: The problem of properly identifying the contents of compressed gas cylinders by the use of colors has been debated on numerous occasions. The ASA Standard Z48.1-1954 covers the method of marking compressed gas containers to identify the material contained. The following is quoted directly from this code:

"Compressed gas containers shall be legibly marked with at least the chemical name or a commonly accepted name of the material contained. Marking shall be by means of stenciling, stamping, or labeling, and shall not be readily removable."

Notice the code does not mention the use of color. The colors used by the various companies serve as a means of identifying cylinder ownership and not contents. Naturally, with a particular manufacturer the colors do indicate the contents.

While color coding may appear to have some advantages from the user's standpoint, there are many disadvantages. First, it is difficult to train employees to associate color and contents. This is especially true when more than three or four colors are used. The problem of color blindness also must be considered. Other factors such as variations in colors and lighting make the problem difficult.

When all of the above factors are considered, the code which calls for lettering only is undoubtedly the best. Consequently, it should be stressed to all employees that the contents of compressed gas cylinders should be identified by the markings and not by the color.

Slippery Floors

Question: In this section of the country, we are exposed to a particularly serious falling hazard, caused by excessive rainfall and moisture and extensive use of terrazzo for flooring in public and private buildings.

We recently moved into a new $300,000 building, with entrances made of broad areas of terrazzo composition. In the past few months, we have had eight serious falls. One of these involved a person stumbling through a plate glass door.

What information do you have on types of abrasive material that can be placed on the surface of this terrazzo without defacing the light color of the present floor?

Answer: In laying terrazzo floors it should be specified, when the flooring is poured, that a non-slip surface is desired.

NSC Poster 1477-A

Silicon carbide or aluminum oxide can be mixed with the topping before laying, or the surface can be sprinkled with the materials to reduce slipping. Evidently this was not done, since you have a slipping hazard.

You can attack the problem in several ways. Reduce the hazard by covering the paths of travel with a suitable non-slip material. Here you have a choice of paints, fabrics, rubber mats, etc.

You could also use abrasive strips, fastening these in front of door entrances and other traveled sections. Another possible solution would be to try one of several slip-resistent floor dressings now on the market.

Since the application of such dressings is important, it would be advisable to have a company representative show you how this material should be put on. In this way you can see if the dressing is effective. Many of these contain resins or gums that keep the surface from becoming slippery.

Some dressings may deface the color of the floor slightly, but this would be better than having a slippery floor.

Shipyard Worker Becomes 18,000th Wise Owl

Governor Foster Furcolo of Massachusetts recently honored James R. Donovan, chief shop analyst at the Boston Naval Shipyard, as the 18,000th member of the Wise Owl Club of America.

Donovan qualified for this club when the lens of his safety glasses stopped a steel fragment from piercing his left eye. The metal particle, hurled by a chipper's gun, struck him while he was making an inspection tour.

He said he is thankful that he works in an organization where safety is actually a way of life and is stressed from the day a person joins the shipyard until the day he leaves. Incidentally, Donovan uses his safety eyewear for protection only, since he doesn't need corrective glasses.

Definition of a loafer: a fellow who is trying to make both week ends meet.

FOR "SCIENTIFIC KNOWLEDGE AND ABLE LEADERSHIP" On October 5, 1959, the Army's Distinguished Civilian Service Award was presented to Dr. James W. McRae, Vice President of the American Telephone and Telegraph Company.

The award was given for his aid in directing the creation of a family of small, tactical nuclear weapons while he was president of Sandia Corporation—a non-profit Western Electric subsidiary under contract to the Atomic Energy Commission.

Dr. McRae is presently A.T.&T.'s co-ordinator of defense activities.

The citation was read by Lt. Gen. Arthur G. Trudeau, Chief of Army Research and Development, and said in part: "His scientific knowledge and able leadership have contributed materially to the development for the Army of small, tactical nuclear weapons, thereby significantly increasing the Army's capability to carry out its combat mission."

Bell System people everywhere are proud of Dr. McRae's recognition. And they are proud, also, that the skills and experience they apply in telephone work are also useful in the nation's defense.

BELL TELEPHONE SYSTEM

THE SAFETY LIBRARY

Reviews of books, pamphlets and periodical articles of interest to safety men

By LOIS ZEARING, Librarian, NSC

Soldering Manual

Soldering Manual, The American Welding Society, 33 West 39th St., New York 18, 170 pp. $5.

THE AMERICAN WELDING SOCIETY Committee on Brazing and Soldering prepared this excellent manual to help interested people understand basic principles.

Organization of the manual to cover soldering principles, types of solders and fluxes, preparation of material to be soldered, along with sections covering specific metals is well handled.

In addition to covering specific materials such as copper, steel, nickel, aluminum, magnesium, tin, lead, and cast iron, a chapter has been included on soldering of precious metals and printed circuits.

As a closing chapter, excellent coverage of safety problems involved in soldering operations is presented.

This book is highly recommended for operating and safety personnel engaged in soldering operations.

PAUL E. SHEPPARD

Resuscitation

Resuscitation of the Unconscious Victim, A Manual for Rescue Breathing. By Peter Safar M.D. and Martin C. McMahon. Charles C. Thomas, Publisher, Springfield, Ill., 79 pp. $1.75.

WHILE THIS MANUAL on resuscitation has been written primarily for those actively concerned with application and teaching of first aid, the publication also affords interesting and valuable information for those interested in this subject who do not teach it.

Techniques described in this manual are limited to getting lifesaving air into unconscious persons whose air passages are obstructed or who have stopped breathing.

The authors hope this manual will aid in the understanding of asphyxia and that the technical details described will be of practical value in future application and teaching of resuscitation.

C. H. HOCH

BOOKS AND PAMPHLETS

Chemicals

The Chemical Industry Facts Book, 1960-1961. Fourth edition, 1959. 163 pp. Manufacturing Chemists' Association, 1825 Connecticut Ave., N. W., Washington, D. C. $1.25. "It reflects the latest information on what the industry is, what it does, and touches on the key role that its products play in individual daily life as well as in every industrial segment of our nation."

Fire Protection

Approved Equipment for Industrial Fire Protection, 1959. 1959 185 pp. Factory Mutual Engineering Division, 1151 Boston-Providence Turnpike, Norwood, Mass. $3.

Forestry

Safety Handbook. 1959. Oregon State Board of Forestry, Salem, Ore.

Hotels

Fire Safe Hotels. 1959. 25 pp. National Board of Fire Underwriters, 85 John St., New York 38. (Presents in brief form the essential elements of fire-safe hotels and gives recommendations for obtaining fire safety in new buildings.)

Mines

Injury Experience in the Metal and Nonmetal Industries, 1955. 1959. 48 pp. Superintendent of Documents, Washington 25, D. C. 30c. (Information Circular 7915.)

Loss of Life Among Wearers of Oxygen Breathing Apparatus, 1959. 28 pp. U. S. Bureau of Mines, Distribution Section, 4800 Forbes St., Pittsburgh 13, Pa. (Rev. of Information Circular 7279.)

Programs

Pattern for Progress: Go for Safety in '60. Fourth edition. Industrial Commission of Ohio, Division of Safety and Hygiene, 400 S. Front St., Columbus 15, Ohio. (A kit of material for promoting an industrial safety program, developed each year by Ohio industrial men.)

MAGAZINE ARTICLES

Boilers

"Combustion Control System 'Runs-the-Team' at Plymouth's New Boiler Plant in St. Louis." R. M. Doering. *The Plant.* November 1959. pp. 34-38.

Communication

"Closed Circuit Television." Charles W. Marchant. *Pacific Factory.* November 1959. pp. 24-25, 37.

Fire Protection

"Human Safety vs. Selfish Planning." John C. Thornton. *Quarterly, National Fire Protection Assn.*, October 1959. pp. 135-146.

Health

"Health Department Services to Small Plants." Wm. G. Fredrick. *Industrial Medicine and Surgery.* December 1959. pp. 568-569.

"Medical Service in Small Plants." R. B. O'Connor. *Industrial Medicine and Surgery.* December 1959. pp. 565-567.

Health Hazards

"Accidental Group Exposure to Acetonitrile." Marvin L. Amdur. *Journal of Occupational Medicine.* December 1959. pp. 627-633.

"Decompression Sickness: The State of the Art." Major John R. Pfrommer. *U. S. Armed Forces Medical Journal.* November 1959. pp. 1292-1298.

"Role of the Specialty Chemist in Precautionary Labeling and Poison Control." Harold G. Lederer and Wm. J. Shibe, Jr. *Industrial and Engineering Chemistry.* December 1959. pp. 79A-80A, 82A.

Lumber Industry

"Hand Signals Used to Direct Scrapers." *The Lumberman.* November 1959. p. 124.

"How Two Firms Handle Strapped Loads to Logs Safely and Efficiently." *The Lumberman.* December 1959. pp. 44-45.

"Standard Hand Signals for Shovel-Crane Operators." *The Lumberman.* November 1959. p. 125.

Maintenance

"How to Evaluate Vacuum Cleaners." Robert C. Kimball. *The Plant.* November 1959. pp. 44-46.

Metal Industry

"Milling Fixture Safely Removes Cylinder Liners." *American Machinist.* Nov. 16, 1959. pp. 181-182.

Nurses

"Occupational Health Nursing."

—*To page 98*

Miss Bausch & Lomb Safety Products announces the newest addition to the expanding B&L line . . .

Look what's NEW in Safety Hats!

UNIQUE SUSPENSION DESIGN FOR MORE SECURITY, MORE COMFORT, CONVENIENCE AND HYGIENE

Bausch & Lomb, a world leader in industrial eye and ear protection, introduces a complete line of hard hats and caps. New suspension design increases protection, eliminates wobble, simplifies and speeds perfect head size adjustment. You replace zippered sweat bands without disturbing suspension. No buttons; no metal parts. See *all* the features of the biggest thing in hard hat value! Write or phone today for complete catalog material: Bausch & Lomb Optical Co., 90302 Lomb Park, Rochester 2, New York.

PROTECTION-**PLUS** Safety Products

protection + economy + worker acceptance

BAUSCH & LOMB

SINCE B&L 1853

More Spring In Their Steps

Corrugated rubber or composition soles and heels absorb much of the shock when feet strike unyielding floors and pavements. On many surfaces they give improved traction.

FOOT FATIGUE is costing industry more than $125 million yearly.

About 19 per cent of disabling accidents originate with the feet.

A 160-lb. man, averaging 19,500 steps daily, receives 3,705,000 lbs of repeated jolts.

Statistics like these, some admittedly estimates but based on fact, help reveal the extent of the foot problem facing the nation's work force.

Safety experts and insurance companies have long known that stiff, uncomfortable working shoes cause foot pain that, in turn, contributes to body fatigue, mental distraction, poor work, falls and absenteeism.

Essential elements in the soles of occupational shoes have included thick or nonskid material. Now springiness is considered a major factor. And corrugated shoe bottoms are said to have reduced the energy cost of walking.

Laurence Morehouse, Ph.D., of the University of California at Los Angeles, has conducted many experiments involving feet. He says, "the bony heel of the foot is poorly cushioned to absorb the landing shock" of walking on hard, unyielding surfaces.

Writing in the *International Record of Medicine*, Dr. Morehouse said, "the downward peak force at heel strike is approximately 120 per cent of body weight." Consequently, he concluded that the 160-lb. man's 19,500 daily steps bring almost 3-2/3 million pounds of jolts and jarring shocks to the individual's body.

Testing conventional shoe bottoms and the corrugated sole, he reported that with the corrugated sole "instead of the sharp unyielding blow upon the surface, the kinetic energy of the mass of the foot and shoe is taken up by the first wave. The sole then distorts, absorbing the energy. An instant later, the next rib picks up the load and distorts it in the same manner. This principle cuts down the peak shock of ground contact by as much as 35 per cent."

Among the country's work force, 7 of 10 persons suffer from some sort of foot trouble. Fifteen women have foot ailments to every man in this predicament. These figures often can be traced back to childhood.

Perhaps the automobile has contributed to apparent American indifference to foot care. A recent examination of the feet of school children under 10 in Massachusetts revealed that more than 60 per cent had foot ailments and deformities.

Research also shows that until recently our shoes—especially the bottoms—haven't been functionally adequate for the demands made on them. Then, a man named Nathan Hack hit on the idea of a flexible ribbed sole while conducting experiments on a paratroop boot which would reduce landing shock and casualties.

He reasoned that a conventional half-inch-thick rubber or composition sole was still relatively inflexible and required muscular effort to bend at each step. Hack also felt that the flatness of this sole imprisoned energy "bounce" inherent in the soling material.

He conceived the ridged sole, based on the cantilever principle. With 14 ridges the corrugated sole provides 14 flexible hinge points that permit foot and shoe to act together. And the spaces between the elevated ridges protect feet from hot or cold floor surfaces.

In addition to the ventilating feature, the elevated sole allows the foot to ride above the dampness of wet surfaces. And, since less pressure is exerted while walking, the corrugated sole is reportedly longer-lived than conventional soles. Thus, the thicker sole is considered an accident-averting sole. Also, the breaking-in process which consumes a high percentage of a shoe's life is considerably reduced.

That this corrugated sole has safety advantages is indicated in the fourth edition of *The Foot and Ankle* by Dr. Philip Lewin. He writes:

"The conformation of the ridges is such that they absorb vibration and shocks from floor surfaces, protecting the wearer from fatigue and injury.

"The continuous movement of the feet, encouraged by the soles, helps the circulation, and the shape (of the soles) minimizes the shock under stress of weights falling upon the foot. The Ripple* sole is helpful in industrial safety shoes, its nonskid feature resulting from the flexible multiple surfaces which offer traction."

*Name registered by Ripple Sole Corp.

FOR SURE, SCIENTIFIC PROTECTION AGAINST INDUSTRIAL SKIN HAZARDS, SAFETY ENGINEERS SPECIFY

"KERODEX"

BARRIER CREAM

THE MIRACLE SECOND SKIN OF INDUSTRY

Thousands of users in every field of industry! A powerful shield against hundreds of industrial irritants!

"Kerodex" spreads like a cream; acts like an invisible glove. Won't smear, and won't affect—or be affected by—materials handled.

"KERODEX" 51 FOR DRY WORK

Protects against liquid and solid irritants not soluble in water. When washed off, expansion action provides "lift" that pushes particles and irritants away from the skin.

"KERODEX" 71 FOR WET WORK

Protects against water and water-soluble irritants. Hands may be washed while wearing Kerodex 71 because this cream does not wash off but gradually wears off.

NEW USES FOR "KERODEX" ARE DISCOVERED BY WORKERS, PLANT MANAGERS, ENGINEERS . . . ALMOST EVERY DAY!

Protects against acids, solvents, paints, cutting oils, resin. Write for literature.

EASY TO APPLY!

Just spread "Kerodex" lightly and evenly, rubbing hands together until cream is absorbed by the skin. Spread around wrists, between fingers, into the cuticles and under the nails. For heavy work, apply second coat in the same way.

PLEASE USE COUPON OR SPECIFY IN-PLANT TESTING OFFER ON PURCHASE ORDER

Protect your company against costly insurance claims, extensive sick leaves, production delays!

FREE!
CONVENIENT BRIGHTWELL WALL-DISPENSER

SPECIAL IN-PLANT TESTING OFFERS NS20

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22 East 40th Street • New York 16, N.Y.

- ☐ 1 dozen 1/4-lb. tubes "Kerodex" 51 for dry work at $10 per dozen
- ☐ 1 dozen 1/4-lb. tubes "Kerodex" 71 for wet work at $10 per dozen

FOR MORE EXTENSIVE TESTS IN DEPTH—A MONEY-SAVING OFFER

- ☐ 6 1-lb. tins "Kerodex" 51 for dry work and 6 1-lb. tins "Kerodex" 71 for wet work. Both for $25.00

A $12.50 VALUE—FREE! A BRIGHTWELL WALL-DISPENSER WITH EVERY 32 LBS. ORDERED! DISPENSES INDIVIDUAL APPLICATIONS

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OFF THE JOB

By HARRY C. JOHNSON
NSC Staff Representative, OTJ Safety Committee

Planning safety programs for your plant and community

Private Flying Safety

Cruising at 210 mph on two 295-hp engines, these men have escaped the traffic problem, but not the accident problem.

PRIVATE OR PLEASURE flying is reaping a harvest in accidents with accompanying injuries, fatalities, economic and social losses in this country, both on and off the job.

In fact, it's generally accepted that the fatality rate in private flying is the poorest among all segments of aviation, according to the Flight Safety Foundation, Inc., New York.

Preliminary figures for 1957, for example, showed 4,189 accidents, of which 427 were fatal, resulting in the deaths of 362 passengers and 427 pilots, co-pilots and student pilots. This is equivalent to one accident for every 16 active aircraft and one fatal accident for every 157 active aircraft. (Compare this rate with one fatal accident for every 2,000 motor vehicles during 1957.)

In the past five years for which data are available (1953-57), total hours flown increased from 8.5 million to almost 11 million (a jump of 28 per cent), while estimated miles flown went from one billion to more than 1.4 billion (a rise of 36 per cent). This almost doubles the figure for revenue miles flown by scheduled domestic air carriers.

Other indicators of the relative importance of private flying can be found in the number of one- and two-place single-engine aircraft registered as "active" with the FAA (about one-half of the 67,000 active aircraft are in this category) and in the number of certified pilots:

As of Dec. 31, 1957, there were 702,519 certified airplane pilots, of whom 448,470 held private pilot certificates. While about 350,000 of these totals are classed as "active," 256,000 of these are either student or private airplane pilots.

Considering original issuances of airman certificates for 1957, there were 76,850 for student pilot, 21,793 for private airplane pilot, and only 15,525 for commercial and airline transport combined. Eighty-six per cent are for student or private pilots.

The AOPA Pilot, February 1958, backed up these statistics on the thriving private flying boom in this nation:

"Everywhere you look these days, there's evidence of private flying's significance to the national economy. Of the 6,919 civil airports in the U.S., only 569 are served by airlines—although all 6,919 are used by private aircraft.

"Total statistics reported by the CAA's 193 control towers in the U.S. show that private flying accounts for some 48 per cent of their total traffic; the airlines account for 28 per cent; and the rest are military.

"That's at just 3 per cent of the country's civil airports. What the traffic count is at the remaining 97 per cent, all of it private aviation, is unknown, but the estimates are staggering."

With awareness of the part that private and recreational flying play, it's important that industrial personnel with responsibility for off-the-job programs consider this activity seriously. A crash can cripple or kill a worker just as surely as a machine or on-the-job safety failure.

It would benefit industry to investigate this problem and draw up plans for instructing or informing its work force on hazards of private or recreational flying.

This material has been adapted from "A New FSF Program for Private Flying Safety," presented by Merwyn A. Kraft, research coordinator for Flight Safety Foundation, Inc., N. Y., at the National Association of State Aviation Officials 1959 Annual Meeting in San Francisco.

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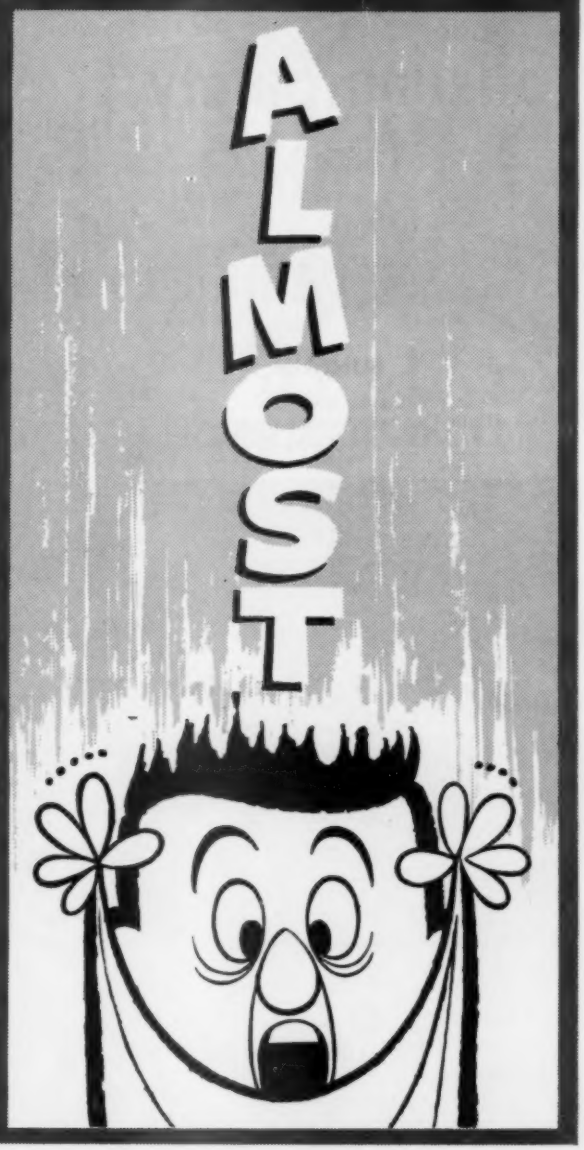
Our plant has <u>every</u>
STONEHOUSE SAFETY SIGN
it needs...



Accidents are no laughing matter—
stop them before they happen

DANGER
ELEVATOR
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Stonehouse **SIGNS**
"Signs Since 1863"

Play it safe in your plant with accident-prevention signs. All Stonehouse Signs are made of enduring, tested materials and designed in accordance with American Standard Specifications. MAIL COUPON TODAY FOR FREE, FULL-COLOR, 64-PAGE CATALOG.

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Sharing Safety With Our Families

By R. E. BUNTAIN

Reactor Processing Supervisor,
Hanford Atomic Products Operation,
General Electric Company, Richland, Wash.

Family safety night, sponsored by the B-C Area Safety Council at GE's Hanford Atomic Products Operation, provided a high level of interest for 100 area employees and their families on two evenings. Displays included safety, educational, and radiation protection exhibits. Included were a boat rigged with Coast Guard-approved safety equipment, a model of a reactor, a home fire prevention display, and various types of protective clothing.

A section of the exhibits showing operations and protective measures at Hanford.

DISTANCE played an important role in the recent Family Safety Night sponsored by a General Electric Company manufacturing component in Richland, Wash. This component, the B-C Reactor Operation, operates two of eight huge production reactors at the Atomic Energy Commission's Hanford Atomic Plant.

Located about 30 miles from the nearest of our homes, the plant and its operation were vague pictures to employees' families. Since these individuals couldn't enter the reactor area for a firsthand look, we bridged the gap by bringing to a local school in Richland a small part of what goes on in the reactor business.

On analyzing the situation, we found that almost any exhibit on job safety, radiation, nuclear information, or family safety would make good material—for our families had seen little of this. Although parts of the plant had been in operation for 15 years (and we have employees who have been here that long), security regulations had prevented disclosure of many aspects of our jobs. Now many of these items have been declassified.

We devised a Family Safety Night —actually two of them—to permit attendance by all shifts and their relatives. We had something for everybody. For instance, there were safety movies for the entire family —"Donald Duck," "Jiminy Cricket," "Vacation Safety," "Office Safety"—even a movie of one of our shift crews showing the safe method of unloading an acid tank car.

We made a special effort to emphasize the fine safety record of the area—11 years out of the 15 were worked without a disabling injury. That's nearly 8,000,000 man-hours of major injury-free work.

We gave safety-type door prizes, sent invitations into the homes, and publicized the event in *GE News*, the plant newspaper. We brought in a new 15-ft. boat with all the latest safety devices, complete with Coast Guard Auxiliary personnel for question answering (especially for Columbia River boating enthusiasts).

We displayed swimming-safety material obtained from the Red Cross. There was an exhibit of awards won by the well-known Richland Fire Department, and their demonstration board showing how to turn in a fire alarm.

We had a model of a Hanford-type reactor and models of the uranium we use. We had many types of radiation instruments with which

—To page 118

Circle Item No. 21—Reader Service Card

THE ATLAS SLING IS DIFFERENT!

MACWHYTE • ATLAS SLINGS — ROUND BRAIDED — KENOSHA WISCONSIN

It's an All-American on your safe handling team!

Take a close look at the braided construction of an Atlas Sling!

The eight-part Atlas Sling is made by braiding two endless Monarch Whyte Strand wire ropes — one right lay and one left lay. This produces an unusually flexible, light-weight, perfectly balanced sling in which all ropes react the same under load.

The Macwhyte Atlas Sling hugs the load with a safe, full-grip contact . . . and the braided construction resists kinking and speeds handling.

Macwhyte Slings are made in many standard types and sizes. We'll make slings to your specification or give you an engineered recommendation. Ask for sling circular 5308R, free on request.

Lightweight!

Resists kinking, speeds handling!

Highly flexible!

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Wire Rope • Slings • Cable Assemblies

190

Mr. Million Man-Hours Breaks Through

By ARTHUR R. BRAUER
Assistant to Director of Industrial Relations, Raybestos Div., Raybestos-Manhattan, Inc., Bridgeport, Conn.

AS THE CLOCK ticked on toward Saturday midnight, a deadline hour approached which would determine the success of our company's entirely new safety program.

At the stroke of 12, a photographer's flash bulb flamed. And with it "Mr. Million Man-Hours" burst through a large paper sign, announcing 1,000,000 man-hours of safety in 1959 completed "when this sign breaks."

Paul "Mr. Million Man-Hours" Jamgochian represents Raybestos' typical employee. He has 16 years of seniority, a family of 4, and owns his own home. He stands for the 1,200 company employees for whom the firm's management, safety department, and Jamgochian's fellow workers are obligated to provide safe working conditions, safe work practices, and safe work attitudes.

Raybestos has maintained a formal safety program, dramatizing such activities, for more than 25 years. And although our safety history has been favorable, compared to the average for the industry, we have been far from pleased with the accident frequency our firm has experienced.

In 1957 we compiled a complete survey of our safety efforts to date and began a vastly revised program. A Central Safety Committee was formed, composed of top management. It received the responsibility of formulating and approving policy, making periodic safety inspections of the plant and using the committee's authority to make clear definitions of duty in twilight areas, such as housekeeping in yard areas.

Our former Housekeeping Committee, revised to the Housekeeping and Safety Survey Committee, accepted the obligation of noting unsafe practices and conditions, and bringing these situations before supervision and the Central Safety Committee.

In addition to section safety committees already in existence, we added an Office Safety Committee.

We started a five-minute safety observation plan. In it every foreman was to spend at least five minutes every two weeks in observing each of his employees to detect unsafe acts. And he was to discuss the correction of such acts, as well as safety in general, with each employee.

The foreman receives a Safety Observation Check List quarterly, listing the name of each employee in his department and providing a box every two-week period in the quarter for each man. The foreman initials the appropriate box at completion of an observation for safety.

Our safety contest plan evolved from providing a $1 bill for each employee in the department with the least amount of lost time, to granting quarterly merchandise awards to safety committees in sections that had no lost time for a full quarter. One additional prize went to every tenth person in such sections. Individual winners were determined by a draw.

Running at the same time with the new quarterly contest was a new Plant-wide Safety Contest. This provided a merchandise award for *every* Raybestos employee, if we reduced our frequency rate by 50 per cent, compared to the previous year's rate. We were able to lessen our frequency rate by 56 per cent in 1957, our first year with the new program.

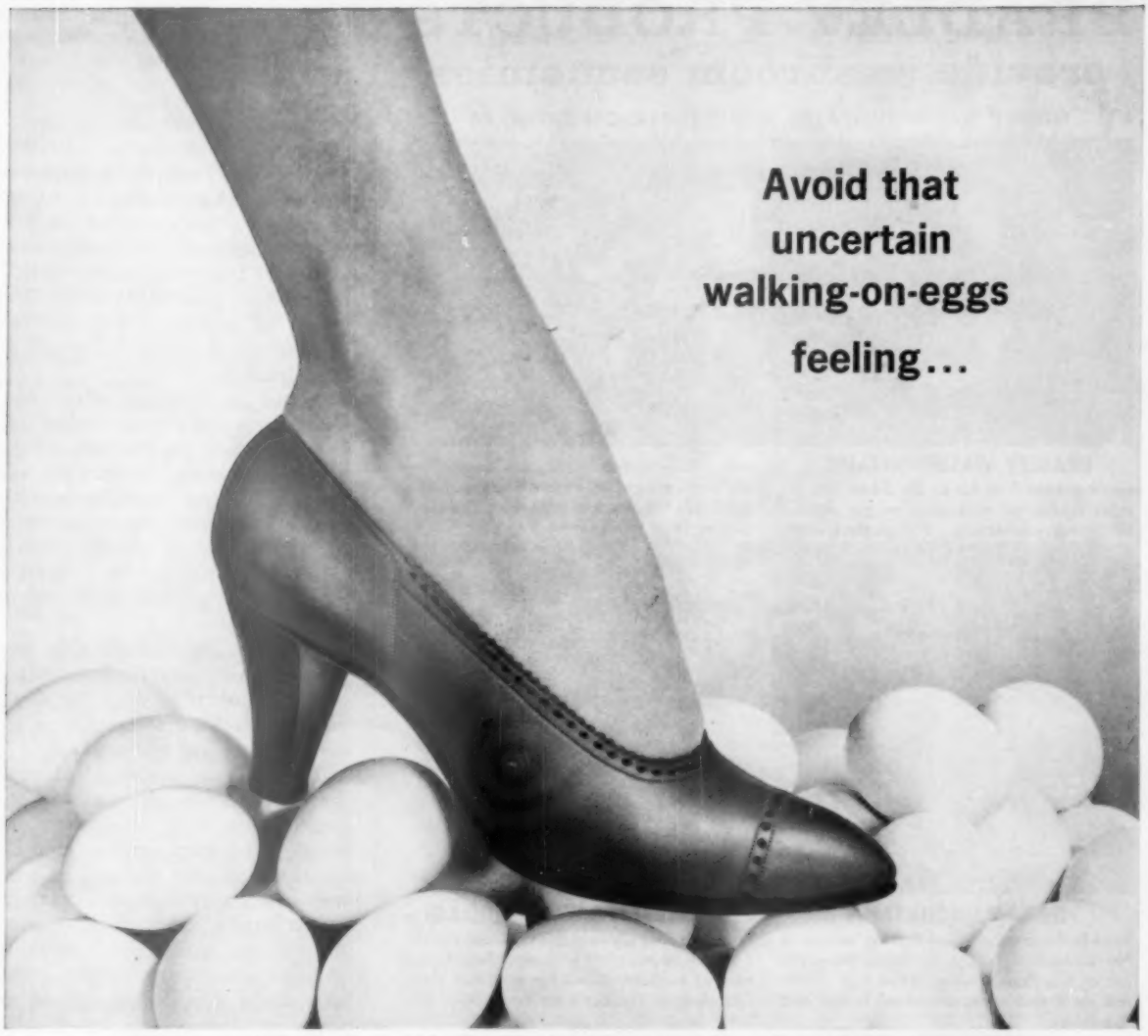
In 1958 we established a frequency rate goal 20 per cent lower than our 1957 record which, if met, would provide a merchandise award for every employee. We were able to reach a 71 per cent frequency reduction in1958, compared to our 1957 record. In two years we were able to reduce our disabling injury frequency 87 per cent.

As we approached 1959, it was evident that a new goal, bettering the previous year, would be difficult to fix. To justify an awards system, we felt we would have to set a new target, one lower than the 1958 record. The only realistic mark we saw was *zero* frequency.

However, we feared a zero goal for the year might tend to dampen enthusiasm built for safety in previous years, since a lone accident in January 1959 would end our plant-wide safety contest for the entire year.

We resolved this problem by starting our Million Hour Safety Contest. This event guarantees a merchandise safety award to every employee each time we complete a million man-hours without a disabling injury.

We also have continued our quarterly safety contest, giving awards for safety committees in sections free of disabling injuries for a full quarter. (The office section here is on a yearly award basis.)

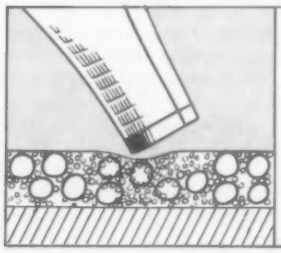


For positive traction underfoot, plus lasting beauty, use floor wax containing LUDOX—Du Pont's anti-slip ingredient

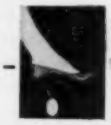
With "Ludox" in the floor wax you get added safety underfoot. "Ludox" acts like a brake that promotes easy, effortless walking. And you get the lasting beauty only a fine wax can give your floors. Scratches and scuffs can be buffed out without rewaxing. For more information and a list of suppliers, write us or mail coupon below.

DU PONT LUDOX® colloidal silica

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY



In floor wax, microscopically small spheres of "Ludox" colloidal silica are mixed among larger wax globules. Under foot pressure the particles of "Ludox" bite into the softer wax globules, resulting in a snubbing action that makes walking more carefree and comfortable.



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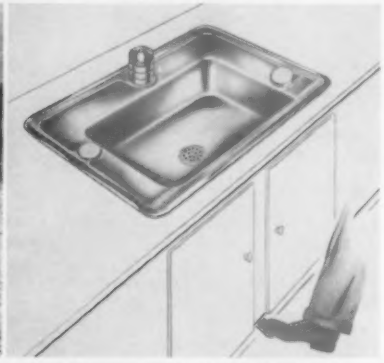
provide washroom economies

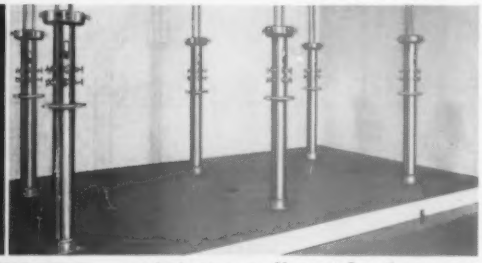
GROUP WASHFOUNTAINS ★ MULTI-PERSON SHOWERS

BRADLEY WASHFOUNTAINS serve groups 8 to 10 at the 54-in. full circular model yet each requires but one set of piping connections. Foot-control eliminates faucets, (no contagious contacts)—self-flushing bowl prevents collection of used water for maximum in sanitation. The semi-circular (wall type) serves 5 to 6.

DUO-WASHFOUNTAINS have foot-control and self-flushing bowl also. No contagious faucet contacts. Does the job of two lavatories at lower cost. Stainless steel and vitreous enamel (white and five colors).



COUNTERTYPE WASHFOUNTAIN has same sanitary features and foot-control, and can be supplied with glass filler faucet and/or bubbler. Bowls are made of stainless steel or vitreous enamel.



BRADLEY MULTI-PERSON SHOWERS are furnished partially assembled for quick installation. They may be supplied with stall-separating partitions and curtains (see upper left), or the Shower Column alone for greatest economy. You get five showers at one installation cost and only three piping connections for all five showers. Each bather has complete control of water volume and temperature. Three heights available, 6', 5'6", and, for smaller folks, —5'.

BRADLEY WASHFOUNTAIN CO., 2237 W. Michigan St., Milwaukee 1, Wis.

Our colorful Catalog 5601. (mailed free on request) has helpful data on washroom economies . . .

BRADLEY washfountains and multi-person showers

Distributed Through Plumbing Wholesalers

Management Principles

—From page 19

for the sake of change alone. Management philosophies, organization structure, and supervisor-employee relationships have changed considerably since organization of the first safety committees. Top management, in viewing these changes, recognized the need for plant safety setups that would be consistent with current management concepts and organization structures.

A study of employee safety committees revealed certain limitations. In some cases, the existence of the employee safety committee was actually limiting employee participation to a few employees, and supervisors were avoiding their safety responsibility by referring most accident prevention matters to the committee.

Because of the committee the line of communication on safety matters was more often between the committee and other employees than between supervisors and workers.

Then too, management reasoned that it was not necessary to organize committees to discuss and handle production, quality control, spoilage and cost matters, so why was it necessary to have a committee to handle safety performance? After all, the same supervisory skills required to solve production problems could logically be applied to safety problems.

Finally, a review of the minutes of several employee safety committees provided convincing evidence of the shortcomings of the employee-committee setup. These were the shortcomings discovered:

1. In many plants it was discovered that only a small percentage of the total work force had ever served on the employee safety committee. Often, appointment was made on an annual basis. At the end of the year, for the sake of convenience, the same people were reappointed.

2. Meetings of the committee were frequently cancelled for a variety of reasons—poor attendance, conference room being used by the sales department, too many members on vacation, behind schedule in production, etc.

3. Committee members were irregular in attendance.

4. Items appearing in the safety

committee reports included: coat hanging on fire extinguisher in Building A, no lids on trash cans, basement needs cleaning, barricade needs painting. Obviously, committees were spending much unproductive time discussing housekeeping items which could have been corrected long before the meeting.

5. Frequently, when items appeared in the minutes which would require a large expenditure, they would appear for several months, then would be dropped without any action. Less costly items, like a sign for an acid tank, would appear in the minutes several times before action was finally taken.

6. Rather than initiate corrective action immediately, committee members would avoid reporting unsafe conditions until a safety committee meeting was held. This would give them something to talk about at the meeting.

Where employee safety committees are promoting full employee participation in safety, enlisting employee safety interest, and helping supervisors to win greater acceptance of their leadership, the committee setup, of course, should be retained. However, if committee activities have become routine and nonproductive, it is time for a change.

In placing the responsibility for safety as near as possible to where the action takes place at the level of the first-line supervisor, safety specialists must make sure that what they say, what they do, what they recommend does in fact implement and enforce the principle—supervisors are responsible for safety.

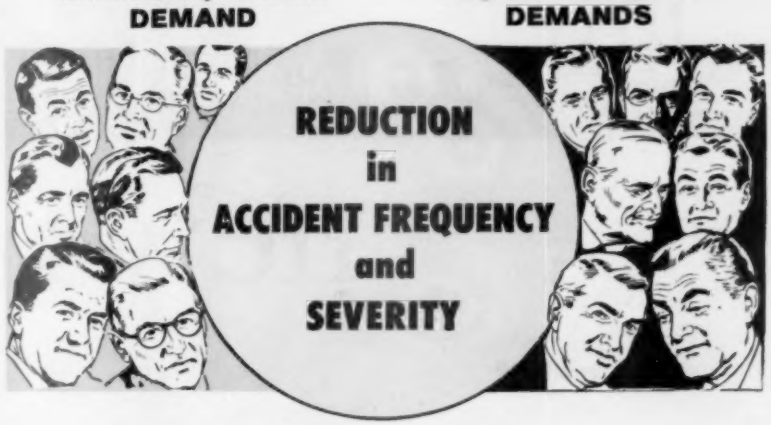
Staff or service functions? Another concept of modern management is the understanding that the main role of "staff" is the rendering of assistance and advice to line supervisors and managers. This concept, too, must be followed in the organization of a sound safety program. Recently a safety specialist of a large company stated in a published paper, "The safety job is so big, I need the help of every manager to get it done."

If this wasn't a slip of the pen, it denotes a complete lack of understanding of the function and responsibilities of "staff people." What

—*To page 75*

Modern Safety Personnel **DEMAND**

Progressive Management **DEMANDS**



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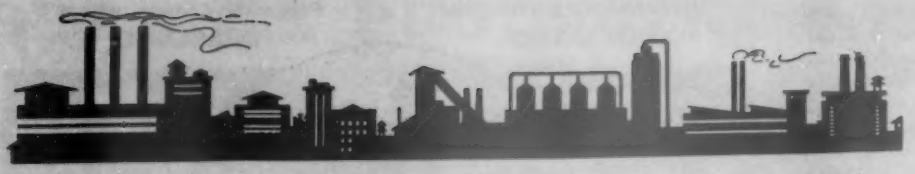


news briefs

Hazard in automation?

We usually hear that removing the human factor solves the accident problem. One authority believes this can go too far. M. L. Jones, Du Pont power engineer, says highly instrumented boilers can lead managers to the misbelief that no operator is needed or that an unskilled operator can do the job. Mr. Jones urges regular boiler maintenance by skilled personnel and standarization of protective components.

This makes scents

Most *NSNews* readers know that air pollution control has become a broad field. They have been told of carefully designed research studies and vast projects aimed at controlling undesirable emissions. However, we have, until now, neglected to tell them of less pretentious plans to keep the air unsullied. For example, one large university has on file a doctoral thesis on the subject of the effect of the prevailing winds on the location of pigpens in Will County, Ill.

Radium dials

Luminous dials are usually mentioned when the subject of background exposure to radiation comes up. The average luminous dial watch, worn continuously, gives a 20 mr per year dose to the gonads. Though this is not a large amount, it should be considered in evaluating exposure.

New radiation shield

A thermoplastic resin that slows neutrons better than any other plastic shows promise as a radiation shield. It might be used on nuclear-powered aircraft, ships, and trains, as well as rockets and space vehicles. It has the highest hydrogen content of any plastic. The new material withstands temperatures from 250 F to —180 F.

Neptune skylarks

A report from Britain tells of a worker known as the "life and soul of the party" who dressed himself in an old sack, put hemp on his head, arms, and legs, made a three-pronged spear out of wire, and cut a jolly figure posturing as King Neptune, god of the sea. The "skylarking" turned serious when another worker in high spirits flipped a lighted butt into the hemp and set it afire. It may be known by another name across the ocean, and classical education may give it a more scholarly form, but horseplay gives the same dismally predictable results wherever it's allowed.

Honorable hard hat

Golf has had a tremendous boom in Japan in recent years, which means a great many duffers are making wild swings and wilder drives. The consequences have been felt by the caddies, many of whom are girls. Over 500 girls were beaned in a one-year period. The Ministry of Labor has recommended helmets, dugouts, and ducking practice.

She quenched him

An Air Force non-com tried to start his car, parked near the command building at Elmendorf AFB, Anchorage, Alaska. The engine caught fire, and he fought the blaze with a blanket, but wasn't having much luck. A woman strolled by, reached into her shopping bag, and calmly handed the sergeant a box of baking soda. The fire was out when the base fire fighters arrived. The woman was the wife of the Alaskan Air Command's fire protection engineer, who apparently talks shop at home.

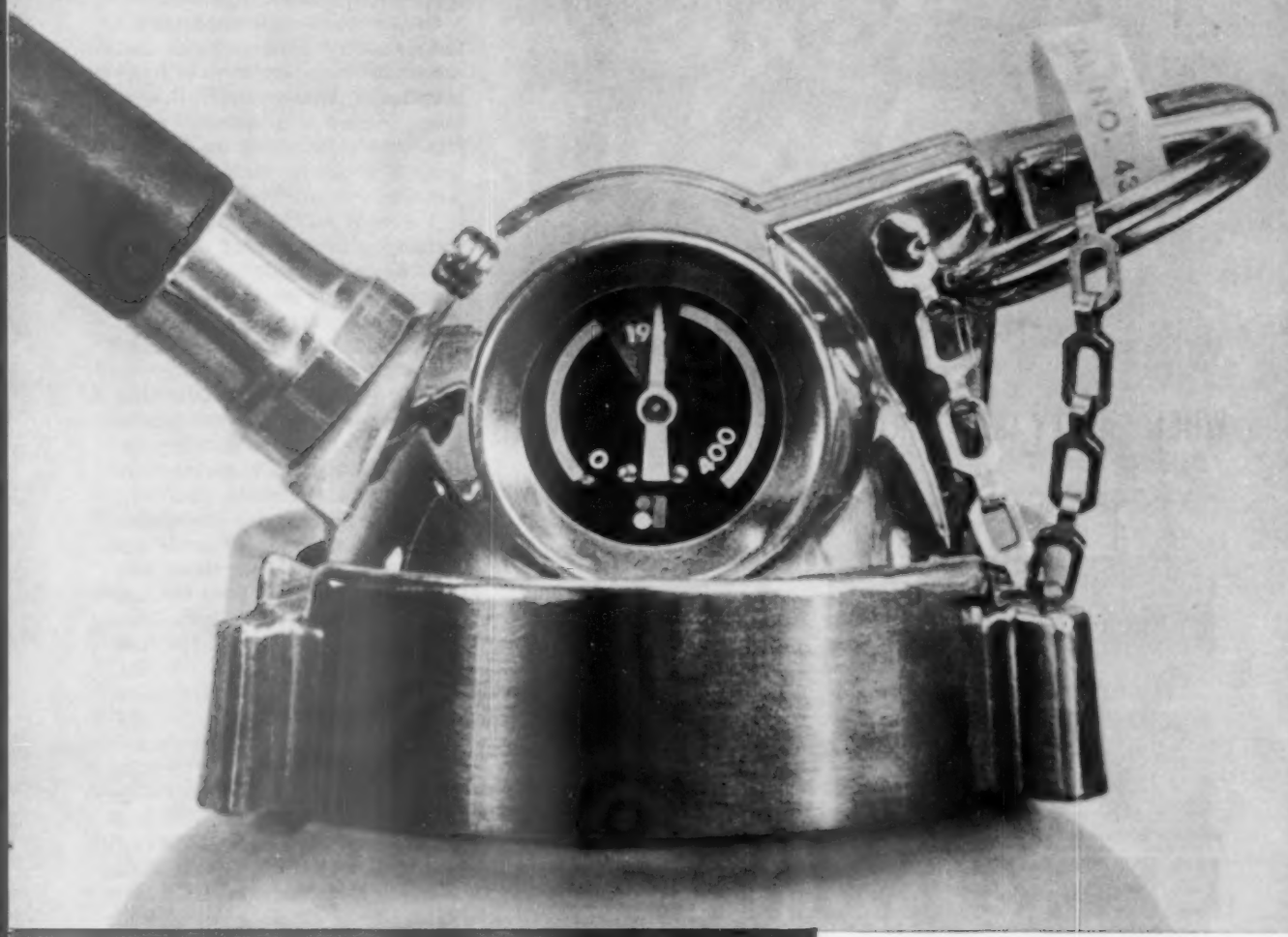
Heroic patrolman

Florida policeman J. Earl McCombs won NSC's President's Medal last year for reviving a baby he had rescued from the water at a Jacksonville beach. The year before he revived a man who had stopped breathing after brushing a live wire. Recently he showed his steel again. Arriving at the scene of a flaming automobile wreck, he risked his life to pull the injured driver out and extinguish the flames on the victim's hair and clothing.

Jim Saal

Circle Item No. 25—Reader Service Card→

There are significant differences in the ANSUL SENTRY *Energized* extinguishers. In the SENTRY models, Ansul Plus-Fifty B dry chemical is under constant pressure, yet operation and maintenance are as simple and efficient as with Ansul cartridge-operated units. SENTRY models are particularly well-suited to large factories that maintain their own fire brigades. See the advanced features of these *Energized* extinguishers for yourself. We invite you to call your Ansul man. His knowledge and experience can help determine which type of Ansul fire protection best meets your requirements—cartridge-operated D-Models or the *Energized* SENTRY series.



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BERYLCO® **THE BERYLLIUM CORPORATION**

Reading, Pennsylvania

Machine Tool Field

—From page 21

Looking to the future, there is one really bright spot in the picture. Many manufacturers of modern machines don't build unguarded units, because their machines are so large and expensive they're sold only to large corporations which specify fully-guarded machines.

In fact, many such machines are tailor-made for a particular job and are rapidly becoming semi- or fully-automatic. The operator is no longer located at the point of operation but is watching the process through a safety glass or plastic window or in a mirror.

I recently watched a six-position forming press in one of the plants of a large manufacturer of fighter planes. Six girls were seated around the press at least 5 ft from the point of operation. They placed the stock between centering pins over the half-die—made of something like dense pressboard—and then pressed a button to move the assembly under the platen which carried nothing but a stack of rubber blankets.

The press descended slowly, then lifted. The flat sheet of metal was now a beautifully streamlined nose cone. The whole assembly returned to the operator, who removed the formed piece and placed a new blank in the half-die.

The most amazing thing about the operation was the fact that each girl was forming a different piece—sections of the leading edge, wing tips, etc. Yet the rubber blanket assembly served them all. The press was in constant operation. Yet each girl had ample time to remove the formed piece and insert a new blank. Strip, chute, and dial feeds are becoming more and more common in punch-press work.

Committee B11, *Safety Code for Power Presses*, recently took a most progressive step. The new draft of that code will not consider any press to be fully guarded unless it is impossible for the operator to get his hands between the dies.

More and more machine work is done without effort by the operator except, perhaps, putting the stock in the machine. Turret lathes or equivalent mechanisms on other machine tools will perform all the needed operation. All gauging will

be done by "go-and-no-go" gauges, by photo-cells, by capacitors, by sensitive weighing devices, by Xrays, by ultrasonics, by measuring radioactivity transmitted through the piece from a standard source (as now done in the precision rolling of steel and nonferrous metals), or by future methods.

One man may operate a number of machines, but even then he will have little to do. If a machine breaks down or gets out of adjustment so the product will not pass inspection, the machine will shut down automatically.

Assembly lines, where the product is assembled as it moves along, have been used to assemble many things, from automobiles to switchboards.

One new setup involves a large casting, placed in front of one of a dozen seated men. Tools are carried on a large revolving disc like a king-size lazy susan, and each man successively performs a dozen or more machining, grinding or polishing operations without leaving his seat. There are as many operating positions as there are tools, so all equipment is in use almost continuously.

Obviously, each operation should take about the same length of time, or part of the time some of the equipment will stand idle. The same system could well be applied to the assembly of automotive parts, where the "lazy susan" might carry cotter pins, nuts, etc., as well as power-torque wrenches and power screwdrivers.

As automatic functions become more numerous, the machines ob-

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6) Laces are recessed to prevent discomfort ...and to adjust for depth.

7) Triple adjustment of headband to *raise, lower or tilt* headband to increase individual comfort or to adjust for adverse work conditions.

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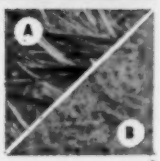

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viously will become more complex and will require more servicing by expert mechanics. These men will have to have a working knowledge of such things as electronics and radioactivity.

Many adjustments will have to be made with the power on and the machine in actual operation. But in these cases the adjuster will probably be in the center of things and will be faced with hazards that the operator is not exposed to in normal operation.

A number of years ago, there was a popular song entitled, "Who's Taking Care of the Caretaker's Daughter While the Caretaker's Busy Taking Care?" It begins to look as though the man we'll have to take special care of will not be the machine operator but the adjuster or maintenance man taking care of the machine. And the hazards he faces may be greater than those that the machine operator faced a few decades ago.

Certainly, he will be faced with such things as Xray, radiant energy, supersonics (the physiological effects of which are not as yet too well known), and the mechanical hazard of making close adjustments on a moving machine. The only consolation is that there will be fewer maintenance men to watch.

On the other hand, we'll always have the small shop with us. For special work of small-lots production, the large plant is too cumbersome and too expensive to change over. Perhaps, an example or two will make this clearer.

Once I was in a small Ohio shop that built ambulances and a few school buses. I happened to know that the majority stockholder was also a high official in one of the "Big 3" automobile manufacturing companies. On the assembly floor stood a beautifully streamlined bus —the first I had ever seen. When I inquired, the superintendent freely admitted it was an experimental job for the large company.

Also, a few years ago we had at the National Bureau of Standards a drawing of a simple structure to be made of an aluminum alloy. Since it would be exposed out-of-doors in a marine atmosphere, we wished the builder to anodize it before shipment. We sent the specifications to three large plane manufacturers. The one bid we received was at a price per pound greater than that of a fighter aircraft—almost four times our original estimate.

When we asked the reason for the high bid, we were informed it would be necessary to shut down one of their assembly lines for at least half a day to handle our job. Subsequently, we built the structure in our own non-assembly-line shops for almost our original estimate.

Then there are many small specialties that can be handled more cheaply in a small specialty shop. For example, I am informed that no major automobile manufacturer produces his own nuts and bolts.

Even in the largest plants, you'll find tool and die rooms with old-style lathes, shapers, millers, drill presses, etc.—all generally well guarded.

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Management Principles

—From page 69

he should have said was, "The safety job is so important that supervisors and managers need the help of a qualified specialist to get it done."

Perhaps it would be easier to understand the functions of the safety specialist if the word "service" were substituted for "staff." The qualified safety specialist gets results by teaching, stimulating, persuading and by having his facts well marshalled. He doesn't order or direct.

In essence, the safety specialist helps line supervisors to help themselves. He applies principles of safety identical to the principles of production, engineering, quality control, and cost which supervisors and managers know.

Based on modern management concepts, these are the duties of the specialist:

1. By teaching, counseling and advising, assist line management to fulfill to the highest degree its responsibility for safety.

2. Provide for periodic safety appraisals to pinpoint unsafe work environments and unsafe practices and processes and report results of such appraisals with sound recommendations for correction. This includes responsibility for appraising all new and relocated equipment and machines and releasing such equipment to the appropriate line supervisor.

3. Promote and maintain a continuing safety education program which will help create safety awareness at all levels of the organization and has as a focal point the first-line supervisor's responsibility for safety—specifically to teach supervisors to develop safe working conditions, to find the cause of all accidents, to use personalized safety training, to promote employee-safety participation, and to enforce safety rules.

4. Maintain and interpret accident and injury statistics and accident cost data.

5. Devise measurements and set standards which provide for an adequate evaluation of accident prevention performance and loss control for each supervisor at each level of management.

6. Provide for the advancement and dissemination of fundamental safety knowledge, conduct safety research and put existing safety information into usable forms such as safety booklets, data sheets, instruction manuals, and bulletins. Transfer such safety knowledge to the first-line supervisor so it can be used where the action occurs.

7. Maintain liaison with national, state, and local safety councils and take an active part in the activities of such groups.

Current management practices have influenced the establishment of personnel policies based on measured performance, enforced standards, removal for incapacity or poor performance, and rewards or promotion of outstanding performance.

This management concept must be considered also in organizing a sound safety program. If supervisors are responsible for safety, there should be a practical and realistic

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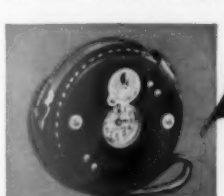

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method available to measure the results of their efforts. Progress and measured results go hand in hand. The various safety statistical reports which are prepared must tell supervisors how they stand. Are they improving their safety performance? Are they standing still or getting worse?

The use of total-injury statistics has been suggested as a basis for measuring supervisor-safety performance. The technique, however, requires additional study and refinement. But one point is clear, safety specialists in preparing their measurement reports should guard against the practice of comparing the injury rates of one supervisor against the rates of other supervisors.

Because of differences of work environments, the nature of the work being performed, the composition of the work force, and the degree of hazards, a supervisor-to-supervisor comparison would be unfair and also unrealistic. What is needed is a standard of safety performance for each supervisor. Then current safety performance of a supervisor can be compared with this standard.

Management principles. From basic principles of modern management evolved these principles of sound safety organization:

1. Responsibility for making safety decisions must be placed as near as possible to where action takes place. Thus, responsibility for safety rests with the first-line supervisor. He is closest to the person most likely to get hurt.

2. The main role for "staff" is the rendering of assistance and advice to "line operators." The safety job is a staff job. Thus in safety work, the safety specialist is in place to help the line supervisor do the safety job. The safety specialist is the coach, not the quarterback.

3. Modern management requires personnel policies based on measured performance, enforced standards, removal for incapacity or poor performance, and promotion or reward for outstanding performance. In safety, as in other forms of industrial effort, we must be able to measure results and determine the quality of supervisory safety performance.

Lines of communication. The safety structure must provide lines of safety communication between employees and managers. The safety responsibilities of managers must be understood, the duties and responsibilities of the safety specialist must also be understood and should in no way relieve line supervisors of their specific responsibilities for safety. The safety organization must be structured to promote safety through supervision and be in accord with the principles of modern management.

Because resistance to change is strong, a final plea is for a critical study of safety problems today as compared to those faced 20 or 30 years ago. Such a study should demonstrate that it is time for a change. There is, of course, no point in making a change in safety organization just for the sake of change. But, on the other hand, there is no point in following the practices of the past simply because they are widely accepted.

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TECHNICAL FEATURE SECTION

The Journal

OF THE AMERICAN SOCIETY OF SAFETY ENGINEERS

IN THIS ISSUE

Our President Speaks on Safety 1

The "Minor" Injuries
by Charles D. Mason 2

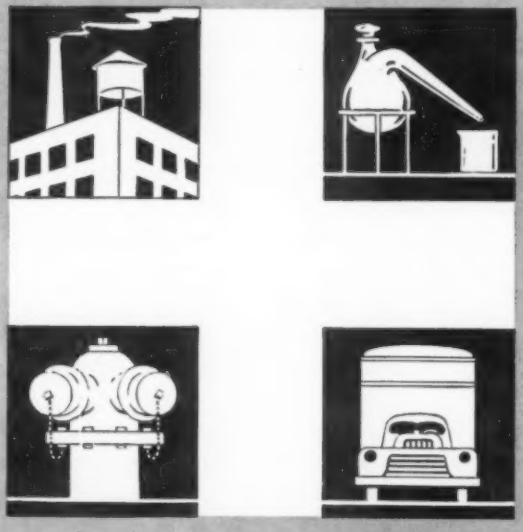
Safety Comes of Age
by John B. Dunne 3

The International Labor Organization
by A. C. Blackman 5

Computation of Construction Work Injury Costs
by Winchester D. Brunig 9

The Force of Voluntary Cooperation
by George Romney 11

Abstracts 15



FEBRUARY, 1960

Society Mail Ballot Approves New Membership Structure

■ YOUR ATTENTION is called to the newly-revised membership structure of the American Society of Safety Engineers, which is outlined on the outside back cover of this issue of the *Journal*.

The new requirements, designed to encourage an ever increasing degree of professionalism in the Society's membership, create a new classification of Fellow for long-time members who have made significant contributions to their calling. While the classification title of Junior Member has been eliminated, comparable qualifications now have been established in subsection "a" of the Affiliate Member category.

Originally submitted to the Society's Executive Committee in May, 1959, proposed revision of the membership structure occasioned much debate throughout the Society and underwent considerable amendment at the October, 1959, Annual Meeting. In its final form it was submitted to a mail vote of all members in late November.

Of the 3,256 ballots returned by the January 4, 1960, deadline, 2,894 votes approving the new membership structure were received. Therefore, in line with the provisions of the Society's Constitution, the new membership structure becomes effective as of February 4.

However, it should be pointed out, any new requirements for an existing classification will not affect present Society members holding the classification. All present Junior Members—since that classification has been eliminated—will be reclassified as Associate Members (but will not begin paying the higher Associate Member annual dues rate until 1961).

AMERICAN SOCIETY OF SAFETY ENGINEERS

Organized 1911—Chartered 1915

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OUR PRESIDENT SPEAKS ON SAFETY

SAFETY ENGINEERING can and does mean different things to different people. But to those of us engaged in it as a livelihood, it has only one meaning. It is a literal translation of a fundamental concept—dedication to the end that man's labors be fruitful, his physical well being be preserved and the natural resources with which he is so richly endowed be conserved in the interest of society in general.

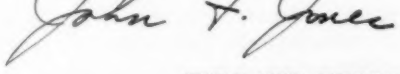
Safety engineering embraces the development and direction of an accident prevention philosophy designed to correct and control conditions and practices which challenge this security. It includes application of the arts and sciences as related to engineering, scientific advancement, research, education, motivation, personnel discipline and administration. Its facets are many, its methods are devious but its objectives are clear. Through the efforts of a visionary group of dedicated individuals, it has achieved recognition as a profession. New—as compared to the learned professions of theology, law and medicine. Broader than pure engineering but basically engineering in its concept, with the added overtones of a dramatically advancing technology in a changing social order.

With this as background, how do we continue to grow as professionals? The dictionary defines a profession as "the occupation, if not purely commercial . . . to which one devotes oneself." This implies that a profession is something more than the occupation by which one earns a livelihood.

Dr. B. D. Thomas, president of Batelle Memorial Institute, says, "Professionalism is a state of being. It is essentially an inward feeling. There must exist in a true professional an awareness of personal significance, a sense of self reliance, an assurance that comes from confidence in one's own knowledge and skill, a pride that derives from the consciousness that one is the interpreter of an art or science to the less enlightened public, and a sense of responsibility to that public. One becomes a professional when he begins to feel like a professional. Conversely, no formal process, no affiliation with a group or a society can make a professional out of a person who does not really feel himself to be one."

The American Society of Safety Engineers is the recognized vehicle of expression for the professional safety man. It has a responsibility to continue to improve the professional status and recognition of its members. It follows then that we not only must be constantly alert to the necessity for improving the technical competence of our current membership, but also must make sure that new members who are brought in will reflect the same potential for professional performance.

We have come of age professionally. Let us continue to act like true professionals.



JOHN F. JONES, PRESIDENT
AMERICAN SOCIETY OF SAFETY ENGINEERS

TAKE INTO ACCOUNT...

THE "MINOR" INJURIES

BY CHARLES D. MASON

MANY PEOPLE seem to think that only accidents which result in injuries severe enough to disable a person are of any appreciable significance in deciding what should be stressed in the way of preventive measures. This idea is not exactly illogical when considered in the light of the fact that, traditionally, it is *only* such accidents which are taken into consideration when making up box score figures by which individual operations, departments, divisions, companies and industries are compared with each other to determine what kind of a job they are doing in preventing accidents.

However, minor occupational injuries treated in the plant Health Office usually outnumber the reportable injuries in the ratio of 15 or 20 to 1. It would seem, therefore, that these so-called "minor" injuries must be taken into account in any complete evaluation of the effectiveness of a company's accident prevention program.

Certainly care should be taken to avoid placing too much emphasis on disabling injuries as a reliable index of what to do about preventing accidents. In fact, our entire system of frequency and severity rate yardsticks leaves much to be desired, for this system serves a limited purpose. It is intended to *compare* and *not to analyze*.

Of course, we're stuck with it until someone comes up with a better system. That's why I was most pleased to see Philip J. Bailey's fine article, "Everybody Understands Money," published in the November, 1959, issue of this *Journal*. I agree with Mr. Bailey completely as far as he goes in suggesting his "estimated loss ratio" as a measure, in dollars, of plant safety performance.

It seems to me that there is only one more step that needs to be stressed to bring his system into clear focus, and that is the inclusion of the previously mentioned "minor" injuries in the cost picture. For even though these injuries require only first aid treatment, this treatment also costs money—and this money comes out of the same pockets, essentially, as the expenses of lost time injuries.

Undue emphasis on disabling injuries can be attributed, I think, to an unfortunate inclination of industry (and of the general public, for that matter) to follow the course of least resistance and take action primarily after the fact. We have all heard the saying, "The wheel that squeaks the loudest is the one that get the grease." To this I would add the observation that (a) more often than not it is the *only* wheel that gets the grease and (b) there are an awful lot of wheels ruined by waiting until they squeak before greasing them.

Here are the important things to remember in deciding what to stress in the way of preventive action:

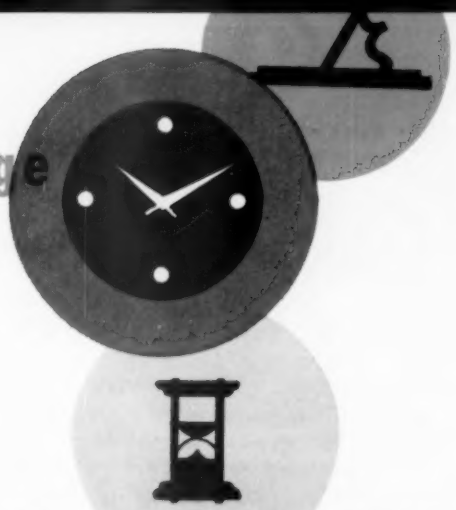
1. When a person loses time from his work because of an injury, it is the *injury* that caused him to lose time; it is *not* the *accident*.
2. The identical type of accident has happened hundreds of times before without causing a disabling injury. In 300 occurrences, one will result in a lost time injury and about 29 will result in minor injuries.
3. This business of treating the symptoms instead of the disease is just as poor a policy (and just as ineffective) in industry as it is in medicine.

We in safety should discourage the practice of considering the disabling injury frequency and severity figures as a reliable measure of how good a job is being done by our supervision in seeking out and controlling the causes of accidents. After all, if we followed such an unrealistic policy in regard to the company products, we would wait until our customers discovered and reported defects before deciding what measures to take to eliminate the defects.

We should emphasize the importance of giving first consideration to things that can cause and have caused accidents. The mere fact that no accident—or no disabling injury—has happened is no guarantee that it won't happen, if conditions exist which will permit it to happen.

Charles D. Mason, safety engineer for Texas Instruments Inc., which he joined in 1956, has been in safety work since 1941, spending 15 years with Aetna Casualty and Surety. A mechanical engineering graduate of the University of Florida, he has been a member of our Society's Southwest Chapter since 1958.

SAFETY comes of age



BY JOHN B. DUNNE

WHEN A BOY reaches the age of 21, we say that he has "come of age." By this we indicate that he has achieved a certain amount of maturity, that he has "put away childish things." Like the proud father who awaits his son's coming of age, some of us in the industrial safety field have been awaiting anxiously the "coming of age" of this worthwhile, humanitarian movement. Certainly safety is older than 21 years; perhaps we have a right to ask why it has taken so long to achieve maturity. I believe the answer lies in the fact that it has taken a long time for those in the safety movement to adopt a mature attitude toward it.

INVENT FAKE JOBS FOR INJURED

Let me give an example. In my association with the safety field, which covers the last 26 years, I have visited many plants in many states. During a visit to the plant of a large soap manufacturer in the East, I noticed award after award from the National Safety Council in the office—low frequency, low severity, greatest number of manhours without disabling injury for four years, etc., etc. I was thoroughly impressed. "Here must be a plant which takes this thing seriously," I thought.

Then, while walking through the plant, I noticed a man sitting in a wheel chair with a cast on his leg, holding a fire extinguisher while some welding was being done. A few discreet inquiries revealed that he was one of the plant's "no lost time" injury cases. He had fallen, fractured his leg, been taken home after 4 p.m., been given his vacation during convalescence, and was put into a wheel chair to preserve the perfect record of the company for the year.

Is this a mature attitude toward safety? Will such shenanigans help the safety movement to grow up? It seems to me, rather, to be comparable to a little boy who writes the Beatitudes on his cuff so he can win a ribbon in Sunday School for reciting them for his teacher. Or it may be more like the Cub Scout who runs to his father or mother and asks them to sign his book to show he has passed a test, even though he hasn't.

We might pass over the misdemeanors of these little boys with no more than a severe reprimand. But how about the industry which thinks plaques are more important than integrity? And what impact will such practices have upon the men in the plant and their attitude toward safety rules? Won't it develop a cynicism which ultimately will result in a very serious accident? A few of us were discussing this company's safety program once and the question arose, "How do they cover up a fatality?" Probably the records show that a lot of employes who died at work had weak hearts.

How can a movement like safety mature when all that many safety engineers think about is statistics? It is my sincere opinion that programs in many plants would be far advanced if statistics were left for the insurance company actuaries. Safety men then would be free to do on-the-job prevention of accidents.

SKIMP INTERVIEWS TO TAKE PHOTOS

This brings me to a second example of immaturity in the Safety Department. A large steel plant in the East employs a safety engineer who is a photography bug. When a major accident occurs, at night or in the daytime, he drops everything, grabs his Leica, flash attachment and light meter, and away he races like a volunteer fire buff. He is unreachable for the next few hours while he photographs all of the gory

John B. Dunne, assistant sales manager, Bomgardner Manufacturing Co., entered the safety equipment field in 1944 with MSA, also has been a plant protection director for GE. A well known speaker and safety author, he holds a BS from NYU's Center for Safety Education and, since 1958, has been a member of the Society's Northern Ohio Chapter.

details. Meanwhile, the accident gets cold in the memories of possible witnesses.

Is it mature to develop a library of pictures, when the plant photographer is paid to do such chores, and at the same time miss the chance to get on-the-spot evidence of how the accident occurred and thereby ascertain how such accidents could be prevented in the future? Certainly, this guy can show you some dandy pictures of amputations, burns, fractures, etc. But just try to pin him down as to how the recurrence of similar accidents can be prevented. He can tell you what exposure he used and what paper was employed in printing the picture but he's a little light on the accident and what caused it. Such men as this have slowed down safety's march toward maturity.

PICK UNQUALIFIED MEN FOR SAFETY JOBS

And then I believe we also should consider management's part in hindering the maturing process. For many years the selection of a safety director was about as scientific as the selection of an army scouting patrol. Anyone who was dumb enough to volunteer was given the chance to be a hero. Many a safety director did not even get to volunteer; he was drafted because he had fizzled as a foreman or a stock clerk (and he was related to the general superintendent's wife and so the boss hated to fire the poor fellow).

One of our large electrical manufacturers once elevated a night foreman to the chief safety job in the corporation's second largest plant. Do you want to know what his qualifications in safety were? He'd worked for a time in the Safety Deposit Department of a bank. You think I'm exaggerating? Well, I'm not, and there are dozens of instances just as bizarre, where the safe working environment of thousands of workers has been entrusted to a person with no better qualifications.

How can you expect maturity from an endeavor hamstrung by such management disinterest? To me, the success and ultimate coming of age of safety has been phenomenal, and altogether in spite of, rather than because of, support from the top.

But it hasn't been all bad. Many companies faced with new processes and vast expansion have turned to the best available sources for accident prevention information. They have selected intelligent, forceful men with good training to head their safety programs. One visit to the Safety Department of such a company will assure you that the safety of the employes is in good hands.

In such a case, the safety engineer, not the Purchasing Department, runs the program. Rules are observed and enforced. The union has a high regard for the rules set forth by the safety engineer. The state inspector is well received and finds his suggestions respected and acted upon. Such cooperation between management and the Safety Department has helped safety to grow up and come of age.

IGNORE CHANCES FOR SELF-IMPROVEMENT

The final deterrent to the coming of age of safety, in my opinion, is the respect—or lack of it—that some safety engineers have for their jobs. There are those who merely draw their pay and wait for some safety equipment salesman to come by and take them out for drinks and a lunch. These same people avoid the meetings at the National Safety Congress but are johnny-on-the-spot at cocktail parties and other entertainment. They pass the exhibits with a jaundiced leer and get home in a state of physical exhaustion because, "Boy, those conventions are hard work!"

These are the same benighted individuals who pass up every chance to take a course for self-improvement. "What can that guy tell me that I haven't already heard?" they ask. They pooh-pooh the idea of a BS course for safety engineers. "What can a college teach you that you can't learn in the school of hard knocks?" I want to tell you, gentlemen, no one will take your work seriously unless you do so yourselves. No one will raise your status in your company unless you raise your own sights. In other words, your job is only as important as you conceive it to be. If you think of it as only a means to a paycheck, then that's where the job will stay—bogged down in cynicism and mediocrity. If, on the other hand, you see far ahead to a true profession in safety engineering—outer space is the limit!

Finally, let's try to assess where we began, where we are going, where we ultimately can arrive. Even though we can think that we finally have come of age, we still must go a long way to become elder statesmen in industry. This goal can be accomplished if:

- We insist on qualified men to assist us.
- We set up high standards for safety engineers of the future.
- We grasp every opportunity to learn more and more about employe health and safety.
- We do a real job of demonstrating safety's place in industry—by deeds, not by statistics.

Much of my life has been spent in trying to teach men to sell. If I leave you with only one thought, I hope it will be that *no one can go through life without selling*. You have a priceless commodity: the safety of every worker. First sell yourself, then sell the men, then sell management. If you do, you will have done your part in making safety come of age.

At special technical meeting of ILO are, from left, delegates of employers, government and workers, with observers in the back rows.

THE INTERNATIONAL LABOR ORGANIZATION

BY A. C. BLACKMAN

YOU UNDOUBTEDLY have seen the initials ILO and, if you know their meaning, you still may wonder just what this International Labor Organization does, how it works and why anyone engaged in accident prevention should be interested in it.

The International Labor Organization was established in 1919 to promote voluntary cooperation among nations toward improvement of working and living conditions throughout the world. Now, the ILO is associated with the United Nations as a specialized agency. ILO headquarters are at Geneva, Switzerland, and are called the International Labor Office. Headquarters staff there is the secretariat of the organization. Branch offices with full time staff are maintained in many nations.

The ILO has 80 member nations, which bear the cost of the organization. Each member nation is represented by four delegates—two representatives for government, one for employers and one for workers.

The Governing Body of the organization is composed of 20 government representatives, 10 representatives of employers and 10 of workers. Ten of the government members are from nations of major industrial importance. The other 10, and the 10 employer and 10 worker representatives, are elected every three years by their respective groups. The Governing Body is an executive committee which supervises organization activities, sets dates and determines agenda of meetings and the form of discussions of the annual conference and of ILO committees.

Each year an International Labor Conference is held to discuss international standards affecting labor: working conditions, hours of work, accident prevention, safety and health of workers. There also may be general discussion of such matters as minimum wages. Standards are presented to the member nations as drafts, conventions or recommendations.

A. C. Blackman, Society secretary and managing director, joined the headquarters staff in February, 1959. A Society member since 1944, he headed California's Division of Industrial Safety for 12 years, has been in safety since his employment with Liberty Mutual in 1931, and holds a degree in mechanical engineering from Cornell.

Proposals may be general or may apply to a specific industry. "Conventions" are actions approved by the conference and submitted to member nations for ratification by their governments.

HEADQUARTERS STAFF SERVES MEETINGS

Headquarters staff at the International Labor Office serves all meetings held under ILO auspices, gathers information for the various committees, prepares drafts of international standards and may undertake technical missions to assist member nations.

To study problems of particular industries, industrial committees are formed by the ILO from time to time. A tangible example of ILO work is the manual, *Safety and Health in Dock Work*. The manual resulted from the work of a committee of experts appointed by the Governing Body in 1953. The committee examined proposals made by the International Transport Workers' Federation several years before. The committee's recommendation that a code of safe practices be drafted by headquarters staff and experts was approved by the Governing Body and, in 1956, the committee met to consider the draft. After study and some changes, which were agreed to by experts in the field, the amended version was published by the ILO. The code applies to workers on docks, loading and unloading of ships, transportation of workers by water, safety of derricks, deck cargoes and the like on board ships.

The ILO has no authority to make any member government follow any of its standards. All it can do is to recommend to its members that they consider the standards and refer them to their appropriate legislative bodies for action.

One of the important subjects—and probably the least controversial—with which the ILO deals is safety. The need for safety standards usually is recognized and agreed upon. How safety practices and methods can be achieved varies, of course, in the different nations.

AUTHOR ATTENDS TECHNICAL MEETING

It was my privilege to attend a special technical meeting on the timber industry held in Geneva in December, 1958. This was a special committee authorized by the Governing Body to consider problems peculiar to the timber industry. The operations to be considered by the special group were carefully defined as work in the woods or in camps or temporary facilities, including felling, limbing, barking and bucking of trees, transportation of trees from the woods, and primary conversion into saw logs or railroad ties.

Before the meeting, the staff of the International Labor Office had gathered much material on the timber industry throughout the world, citing the countries where it is an important industry, and information on accidents, conditions of work and workers' welfare in logging camps, as well as current practices in labor-management relations. The material was sent in advance to all delegates.

MEETING LASTS TWO BUSY WEEKS

Delegates for the two week meeting were seated as shown in the photograph at the beginning of this article—delegates of employers at the left, of government in the center, and of workers at the right, all in alphabetical order by countries across the rows. This put the United States government delegates, including the author, between those of the United Kingdom and Yugoslavia. On the balcony from which the picture was taken were the numerous interpreters necessary for such a meeting. The headphones many of us are wearing are tuned to a concurrent translation of the speaker's words, for each of us in a language we understand.

Alphabetical seating places a delegate of the USSR and two from the United Kingdom in this picture with A. C. Blackman, the author of this article, and George Tobias, who at the time was U.S. Department of Labor attache at the Geneva consulate. Observers are in the three rows shown in the background of this photograph.

Starting the meeting were general speeches, explanations of the scope of the committee's work and selection by each group—employers, government and workers—of their representatives to a Steering Committee. The Steering Committee is the executive group of such a meeting. The workers and employers each met and elected their chairmen and vice chairmen. As various subjects were discussed, the employers' and workers' groups met and decided on their posi-

tions. Likewise, each group instructed its representative on the Steering Committee. The government delegates do not do this because each of them is under instructions from his government and is not at liberty to join in a policy with other governments, as the worker and employer delegates are.

The Steering Committee divided the work into (1) accident prevention and conditions of work and workers' welfare in logging camps and (2) labor-management relations in the timber industry. The three groups of delegates then met to decide which of their members would work on each subject.

After open meetings to discuss each of the items the ILO staff had suggested and other subjects suggested by delegates, the chairman appointed working parties of nine members, three from each group, to consider material and submit specific proposals to the entire subcommittee.

When government delegates met to select representatives to the Steering Committee, U.S. delegates A. C. Blackman, George Tobias and Walter Wallace, executive assistant to the U.S. Secretary of Labor, were between two Australian delegates (left foreground) and Argentina delegates. Across table are delegates from Philippines, France and USSR.

In the nine members of the group with which I worked, there were representatives of seven nations, and four languages were used. When we consider the problem of making ourselves understood to people of our own country, think how much more difficult it might be with several different languages involved! Terminology developed over the years has a special meaning within an industry but may have an entirely different meaning in another industry or in another language. Add to that difficulty the problem of communicating through an interpreter, whose versatility in languages does not necessarily encompass technical vernacular!

The simple word *training* posed a problem in understanding. After much discussion it developed that, in Sweden and Germany, workers finish their general schooling at about the age of 14 and then go to vocational school. After special training they stay in the industry for which they are trained. This is a different kind of education from ours. It took a long time and many words to describe the different concepts involved in the word *training* before some agreement was reached on how workers were to be trained in jobs, particularly in relation to safety.

WORKING PARTY REPORTS

After the working party had finished its discussion and reached agreement, a draft was submitted to the subcommittee for approval, rejection or changes. In almost every case there were some objections by either the workers or employers, so efforts to reconcile these differences continued until acceptance was secured from the entire subcommittee. The subcommittee in turn reported back to the main committee and went through the same procedure, polling the delegates. This same process was followed for each of the subjects. The result of this effort, insofar as accident prevention was concerned, was a resolution, adopted unanimously by the group.

THIS RESOLUTION WAS ADOPTED

The resolution as adopted recognized the possibility and desirability of improving timber industry safety and covered in detail the following points:

1. Peculiarities of the timber industry mean a relatively high accident rate and consequent losses.
2. Effort should be made to increase safety, bearing in mind that safety of workers takes precedence over production interests; urgency never must result in neglect of safety measures.
3. The duty and responsibility of organizing safety and ensuring effective application belongs to employers.
4. Accident prevention in the timber industry is a common interest that requires the joint efforts of employers, workers and governments.
5. Particular attention should be given to vocational training, with sufficient emphasis on safety.
6. The ILO, with other international organizations, notably the United Nations and the UN Food and Agriculture Organization, should continue to give attention to problems of vocational training: (a) to improve work methods and training, in accordance with the example of the joint FAO/ECE Committee; (b) the ILO should support such efforts and publicize their results; (c) in particular, the ILO fellowship program for forest personnel and international training courses should be maintained and developed worldwide.
7. Safety consciousness should be aroused and fostered by appropriate means.
8. Managerial and supervisory staff and workers

should receive adequate safety education throughout their professional lives.

9. Because certain operations in the timber industry require much physical effort, national authorities, in consultation with employers and workers, might establish model menus for adequate nutrition.
10. It is desirable that up-to-date standards of safety be maintained through cooperation of workers, employers and governments, covering equipment, devices, methods and personal protective equipment.
11. The possible effect of technological developments on safety should be studied to determine precautions needed and ensure their use.
12. Competent authorities should consider reinforcing the labor inspectorate, and labor inspectors should be authoribed to take emergency measures whenever necessary. Suggestions for consideration:

At the reception given by the U.S. government delegation, the author is shown with two employer delegates from the United Kingdom, A. Sawyer and J. M. Wright.

(a) specialization of inspectors; (b) sufficient qualified safety inspectors; (c) coordination on safety questions between labor inspectors and forestry authorities; (d) adequate frequency of inspection visits.

13. Appropriate international bodies might prepare an international handbook of examples of good safety practices in representative forest regions in accordance with a request already made by the Joint FAO/ECE Committee on Forest Working Techniques and Training of Forest Workers in collaboration with ILO.
14. In employment of workers, age and aptitude should be considered. Incentives and hours and other conditions should not be detrimental to safety.
15. Workers should have adequate housing and provision of food and wellbeing.
16. Mechanically powered equipment should be examined regularly.
17. Cooperation of employers, supervisory staff and workers is essential and accident prevention effort should comply with and make use of local or regional safety services and advisory committees.
18. Local or regional joint safety committees of employers and workers should be set up where they do not already exist.
19. The activities of research bodies should be increased and coordinated and research should be undertaken on work physiology.
20. Appropriate international organizations should give greater emphasis on accident prevention in the timber industry within their programs of technical assistance.
21. Accident statistics should be collected on an industry basis and those for accident prevention use should be kept separate from those for compensation.
22. Employers, public authorities and international organizations should continue to promote full and comparable statistics on accidents in the timber industry.
23. A standard accident reporting system should be adopted, a system that is workable, reliable and useful.
24. There should be ever increasing international cooperation in accident prevention.
25. The ILO should, within its current program, increase promotion of timber industry safety.

The committee adopted two more resolutions: (1) recommending to the Governing Body that special attention be given to encourage research, training and technical assistance in the timber industry throughout the world and (2) requesting the director general of the ILO to continue to study the social problems of the industry and to convene meetings as required to assist the program further.

During the two week meeting, we met Mondays through Saturdays. The usual time schedule was from 9 a.m. to 6 or 6:30 p.m., but some of the sessions lasted until 1 or 2 o'clock in the morning.

The director general had a reception for all delegates where they could meet socially and informally. The U.S. government delegation had a luncheon and reception for other government delegates. These occasions were valuable for the opportunity to exchange ideas in a relaxed atmosphere.

It seems to me that the ILO has a valuable function to perform in that it is an international forum where the problems of accident prevention in various industries can be discussed openly, for better understanding. In sending staff representatives to underdeveloped countries, providing technical assistance, doing research work and providing the means whereby people exchange ideas, the ILO gives important service to the nations of the world in prevention of injuries to workers.

Computation of Construction Work Injury Costs

BY WINCHESTER D. BRUNIG

PROGRESS IN ACCIDENT PREVENTION may seem slow at times to those of us who work in the safety field, as was so ably pointed out to us by Howard Pyle, president of the National Safety Council, in his inspirational speech at our Society's Awards Luncheon October 20, 1959. With Mr. Pyle's point in mind and realizing that the objective in view in this article may not be attained soon—but with the utmost confidence that it will be accomplished some time—I approach the highly controversial subject of quick costing of injuries on construction jobs.

I expect to be beaten about the head and body somewhat for my temerity in taking a positive stand on this matter but I will welcome such action if it will keep the subject forcibly active before all those concerned.

Is there any contractor who would not welcome a method by which he could compute within minutes

Lt. Col. Winchester D. Brunig (U.S. Army Corps of Engineers—ret.) has been safety engineer for D. W. Winkelman Company since 1947. He entered safety in 1936 with the U.S. Engineers, has been in construction safety work ever since. He joined the Society in 1943, is now a Life Member and belongs to the Central New York Chapter.

the total cost of the injuries sustained on his individual jobs each month? We all know the answer to this question.

The contractor will tell you he now is unable to get the aforesaid information quickly because of a number of handicaps. First, information as to the cost of each injury is dependent on the outcome of Workmen's Compensation Board hearings in the future—weeks, months or years—where the injury is compensible. In cases of noncompensible injuries, the cost information will be determined in the future, also, either by negotiation or by the result of lawsuit.

The contractor will not, in all probability, know the final cost of any injury, unless a very minor one, until after the construction job in question is finished.

The contractor's insurance carrier will set up reserves at some later date against individual injuries and these reserves may vary from year to year for at least three years. Neither these reserves nor any other available figures will show the contractor the hidden cost of each injury. The contractor alone will bear this cost which may include slow down of the job, damage to equipment, cost of training a new employe and other costs.

The contractor has no way of calculating what fractional change in his insurance experience modification will be incurred for the following three years because of each individual injury. This fractional change will increase the cost of the contractor's insurance not only on the job where the injury occurred but on all the contractor's current jobs during the following three year period.

In fact, it is technically possible for the job on which the injury occurred never to suffer the cost of increased insurance experience modification (i.e., if the job in question is finished before the new experience modification is promulgated) while all the other jobs performed by the contractor could bear the cost of the injury or injuries for the following three years.

Any contractor can tell you his depreciation costs on any piece of equipment used on any job, month by month. He does this by referring to a set of tables such as are in the U.S. Treasury Department, Internal Revenue Service Bulletin F, "Income Tax Depreciation and Obsolescence" (estimated useful lives and depreciation rates).

Is it not a sensible conclusion that, if the contractor had a set of tables listing the *average* cost of each type of injury, he could figure his average cost of injuries on each job each month and charge each individual job accordingly while the job is still in progress? Would not this information be a tremendous help to those responsible for accident prevention? Think of the impact such figures would have on Monthly Estimate Cost Sheets for individual jobs. Think of the pressure a job superintendent would use for accident prevention rather than be faced with figures showing his job operating at little profit or even a loss because of injuries.

You may say this is a cold blooded view of the matter. I do not belive it. I believe the quick costing of injuries would be a valuable aid in accident prevention in construction. It is not intended to stand by itself but is intended to be used as an aid or adjunct to accident prevention programs and procedures.

I have heard at least three basic objections to the quick costing of construction job injuries and I will attempt to answer them, as follows:

1. Who can compile a set of tables that would be accepted by the construction indusry?

   Obviously, no small organization could accomplish it. In order to have statistics of sufficient scope assembled, it probably would be necessary to have a joint project sponsored by almost all, if not all, of the following organizations: the Associated General Contractors of America, the National Safety Council, the American Society of Safety Engineers and the Compensation Insurance Rating Boards. This may sound like too difficult an undertaking, but I believe the eventual benefits to each and all of these organizations would warrant it.

2. Too long a time would be involved in compiling the statistics.

   I meet this objection by calling attention to the fact that many accepted statistical tables have taken years to compile. If the end attained is worthwhile, the time consumed in compiling is well spent.

3. The tables would not be accurate.

   I believe the degree of accuracy attained would be sufficient for our purpose. All we would be endeavoring to accomplish would be to show the average cost of any type of injury, including a fixed percentage for hidden costs. The AGC Manual for figuring depreciation of plant and the Internal Revenue Service's Bulletin F do not pretend to be *mathematically perfect, yet they are in use extensively.*

I firmly believe that a manual or set of tables of the type discussed will be a fact sometime in the future. Why don't we start doing something about it now?

BY GEORGE ROMNEY

THE FORCE OF VOLUNTARY COOPERATION

As first winner of the newly established Key Award of the American Society of Association Executives (for outstanding accomplishments in behalf of industry, freedom and civic betterment), George Romney was a principal speaker at ASAE's 1959 Annual Meeting in Boca Raton, Florida, in November. Mr. Romney's article which starts on this page—excerpts from his ASAE address—is presented by the *Journal* because his inspirational message holds significance for all voluntary organizations and has direct application to the objective of human service which guides our Society.

IN SHOWING its face to the world, America lately has permitted such blemishes as intransigence in the steel industry, quiz show scandals and political temporizing at state and national levels to detract from more fundamental and appealing characteristics of our national life.

While deeply disturbed by these evidences of personal and group irresponsibility, I'll take a leaf today from Carlyle, who said, "A man lives by believing something; not by debating and arguing about many things."

I'd like to state here my beliefs about the concept of voluntary cooperation, the lifeblood of the many trade and professional associations in this country and of a great multitude of significant activities taking place throughout our nation.

I'm sure you all have your own definitions of voluntary cooperation. For the sake of establishing common ground, however, I'd like to offer this one of my own:

> Voluntary cooperation is a social mechanism through which individuals and groups freely join forces to solve problems which are too big for individual action.

This mechanism of voluntary cooperation, along with the American form of competition, helps make our society unique. The spirit of voluntary cooperation has been manifest in our country for centuries. It is basic to our form of democracy. Yet it seems to me there is urgent need today to reawaken not only

George Romney, president of American Motors Corporation, has a background of many years in association work, beginning in 1935 as Washington representative for the Aluminum Wares Association. In 1939 he became Detroit manager of the Automobile Manufacturer's Association and later was promoted to the position of AMA general manager. He left association work in 1948 to join the Nash-Kelvinator Corporation. The company merged with Hudson Motors in May, 1954, to form American Motors and, five months later, Mr. Romney was named to the top spot as president of the corporation. In the field of public service, he has been active in many community projects and has served the federal government on numerous international committees. The son of Mormon missionary parents, Mr. Romney now serves as president of the Detroit Stake of the Church of Jesus Christ of Latter-Day Saints.

the American public to its importance but to reflect its basic principles to nations abroad, particularly those which continue to weigh the relative merits of our democratic society as compared to its totalitarian challengers.

To make a convincing demonstration to the world of the advantages of our system, we need first to understand ourselves better—our heritages, traditions and democratic institutions—so that we can more effectively articulate the philosophical basis of our system; and second, we must find ways to develop new and higher expressions of citizenship in America. Mechanisms of voluntary cooperation, properly conceived and directed, will help serve both purposes.

Later on, I want to make a specific proposal about the attainment of such goals. Initially, however, I'd like to sketch in some background and experience which have helped shape my thinking.

STATE SUBSERVIENT TO CITIZEN

We are the beneficiaries of the fight for human liberty and justice which has been waged since the beginning of time. The American Revolution of 1776 itself was a natural outgrowth of a struggle begun a century and a half earlier that sought to establish religious freedom and separation of church and state.

The outcome of our subsequent political and economic American revolutions differed from those in Europe in that here people were put in charge of the state. Our divinely inspired Constitution made government subject to the consent of the governed. The state was designed to remain the creature and servant of man.

Because of the challenges of the frontier, Americans from the beginning banded together in groups to accomplish tasks that were too big for the individual to handle alone. This urge for association extended to the business realm with the organization of the first Chamber of Commerce in New York City in 1768 and with the first trade association in Connecticut in 1853. These early trade organizations differed radically from those in the old world which were agencies of government or linked to government. Indeed, the New York Chamber was formed to resist governmental action that was considered damaging to the economic strength of the colony.

However, the concept of voluntary cooperation spread in many fields. One of the classical comments on the tendency of Americans to join together for common goals was made by Alexis de Tocqueville more than a century ago. He said:

> Americans of all ages, all conditions and all dispositions constantly form associations. They not only have commercial and manufacturing companies, in which all take part, but associations of a thousand other kinds—religious, moral, serious, futile, extensive or restrictive, enormous or diminutive . . . If it be proposed to advance some truth or to foster some feeling by the encouragement of a great example, they form a society . . . I have often admired the extreme skill with which the inhabitants of the United States succeed in proposing a common object to the exertions of a great many men, and in getting them voluntarily to pursue it . . . Thus the most democratic country on the face of the earth is that in which men have in our time carried to the highest perfection the art of pursuing in common the object of their common desires, and have applied this new science to the greatest number of purposes.

In our own lifetimes, we've watched the federal government become a gargantuan creature, which is increasingly costly and difficult to control. We can't expect to curb the further intrusion of government into business affairs if businessmen continue to lead the parade to Washington for handouts.

In my opinion, the steady drift toward big government can be arrested only if we implant the spirit of self reliance and generate a renewed appreciation of voluntary cooperation as a mechanism for expressing this self reliance.

"The spirit of democracy," Milton S. Eisenhower once wrote, "shows itself not only in faith but in works." He urged that we make known the instances of "free citizens in a free land voluntarily coming together to solve their own local problems."

These examples, he said, should be put before Americans so that their own faith and their practice of democracy might be strengthened and extended.

President Woodrow Wilson expressed the principle succinctly when he said, "The most powerful force in the world is the spontaneous cooperation of a free people."

I should now like to offer two examples of the effectiveness of voluntary cooperation in meeting some problems of our time. In introducing this first example, I'd like to quote Henry Luce, the publisher, who recently observed, "Organization with freedom, however untidy, is in every way superior to organization by tyranny, however benevolent."

TEAMWORK BRINGS VICTORY

I saw this truth powerfully illustrated during World War II. As a young man only recently transplanted in Detroit after cutting my eye teeth in trade association affairs in Washington, I undertook to help the automotive industry organize a coopera-

tive mechanism, the Automotive Council for War Production. The council's purpose was to expedite the output of guns, tanks and planes to help our nation carry on a war on two fronts.

Let me give you a bit of background on the council. At a meeting of the Automobile Manufacturers' Association in New York in October, 1940, William S. Knudsen, who recently had resigned as president of General Motors and was heading up the nation's defense production, said to the auto industry, "You've got to help." Before the day was over he had a pledge from the whole industry that it would subordinate its regular activities to the mass production of airplane parts and components for the defense program. Thus, in 1940, began the Automotive Committee for Air Defense. The cooperative mass productive might of the motor car industry was put behind the bomber program.

The motor vehicle and parts companies learned that they could plan together, work together, build together and exchange production know-how with each other for the common cause. In addition to making air-frame sections, the automobile industry was called upon to produce three out of four of the necessary aircraft engines. Following Pearl Harbor, the industry organized the Automotive Council for War Production.

The Nazis came to a belated recognition of the worth of such a cooperative pattern. Not until February, 1943—more than 41 months after Germany began total war—were German industrialists ordered to pool their experience and share their production methods. This was a tacit admission that enforced cooperation had not worked in Germany's completely collectivized state.

GROUP EFFORT HITS TRAFFIC PROBLEM

The traffic accident and fatality problem is an example of a major public and social condition that did not yield to the efforts of government alone. With the use of motor vehicles growing at a very rapid rate, the number of persons injured or killed in or by motor vehicles pyramided between the world wars. Not until hundreds of groups joined together at the national, state and local levels did the traffic fatality tide begin to recede. A consistent, concerted effort calling for more effective education, enforcement and engineering helped produce these results:

In 1937, traffic fatalities averaged 14.7 per 100 million miles of motor vehicle travel. For the first seven months of 1959, the traffic fatality rate was down to 5.1.

Here's another way to look at the reduction in human toll: if cars, trucks and buses were killing people at the 1937 rate, instead of 37,000 persons being killed—regrettable as that total is—the current total would be close to 100,000 persons.

WE OVEREMPHASIZE RUSSIAN IDEOLOGY

As the awesome magnitude of modern problems confronts us, such as how to meet our educational needs, some people point admiringly to all out government support of such activities in the Soviet Union. They suggest we need to adopt similar practices here.

I believe one of the great threats to our way of life is that we'll overrate the effectiveness of the Russian ideology and permit it to infiltrate our own. To guard against this tendency, we must reaffirm our belief in freedom, democracy, individualism and voluntary cooperation—the cornerstones of our great system.

We have some decided advantages over the Russians. One is that we know how to get things done through voluntary cooperation. This is a real advantage in a rapidly changing society.

As a social tool, voluntary cooperation possesses remarkable qualities. It is sufficiently flexible to embrace a variety of different problems, large and small, simple and complex; it is adaptable to shifting needs and conditions; it can be utilized for short range purposes or can be continued over an indefinite period of time. The more actively one participates in voluntary cooperative activities, the greater his personal satisfaction. Even when the particular mechanism is brand new, it can produce results more promptly and effectively than older social forms, provided sufficient energy, vision, faith and determination are applied.

FRUSTRATED CITIZENS SEEK DIRECTION

The opinion polls conducted by Samuel Lubell and others have uncovered a deep-rooted feeling of uneasiness, frustration and helplessness on the part of the American people. They are conscious of the drift and indecision at state and national levels, yet they are floundering as to what they individually can do about it. They are seeking leaders of faith, courage and understanding who can give direction to their yearnings for greater spiritual satisfaction, and they want to work toward higher personal and national goals.

Our age and the magnitude of our problems requires that we develop men of character and ability who will exercise responsible leadership in their communities—the logical training ground for eventually assuming even greater responsibilities at the national and international levels.

We all are acutely conscious that progress in the social sciences has lagged behind technological progress. We need to develop voluntary cooperative mechanisms that will enable metropolitan communities to eradicate slums, arrest the encroachment of blight and provide better programs and opportunities for their youth.

Those of us who have fled to the suburbs should assist in the improvement of the environment of those living in the midst of the noise, smell and ugliness of the city. If we deplore the spread of juvenile deliquency, we might ask ourselves, "What have I personally contributed to providing wholesome recreational or vocational outlets for our youth? What can I do to help combat disease and social tensions among their elders?"

The answers are not easy. We do not discharge our obligations by making annual financial contributions to the Community Chest. We cannot satisfy our consciences by shunting the job off on social agencies or by demanding that some government agency do something. We give lip service, or money, or opinions when we ought to give ourselves.

PROPOSES FOUNDATION BE ESTABLISHED

Because the health of a democratic society may be measured by the quality of functions performed by private citizens and their voluntary organizations, I believe that still greater recognition is due this significant aspect of American life.

There is no organization in existence at the present time whose primary purpose is to foster the greater understanding of the role of voluntary cooperation. Therefore, I'd like to propose the establishment of the American Foundation for Voluntary Cooperation.

The American Foundation for Voluntary Cooperation would provide encouragement and recognition to individuals and groups that are making significant public service contributions through the instrument of voluntary cooperation.

Here's the way I view the structure of the organization:

1. The foundation would consist of a Board of Trustees composed of nationally outstanding and representative men and women who are recognized for unselfish efforts in furthering cooperative endeavors in economic, educational, civic, religious, vocational or community life.
2. Advisory committees would be created to make recommendations to the trustees and staff on identifying meritorious cooperative programs, choosing recipients of awards, publicizing outstanding examples of voluntary action, etc.
3. A small permanent staff would be established to assist in carrying out the foundation's objectives.

TO DEMONSTRATE FREEDOM'S SUCCESS

Why am I as a citizen interested in furthering such a program? Because I firmly believe that our best means of countering the Communist ideology lies in demonstrating the effectiveness of freedom—religious freedom, political freedom, economic freedom. We need to demonstrate by example at home and abroad that persuasion and voluntary cooperation lead to greater social and economic gains than complusion and collectivism.

America's greatest shortage is trained leaders. Leadership is particularly short in areas where social progress has lagged behind technological advancement. We need, therefore, a new and dramatic device that will provide encouragement and recognition to individuals and organizations that have made outstanding contributions to these fields.

In conclusion, let me point out the tremendous stakes that are before us. Internally our nation faces a persistent demand for multimillion dollar government programs to conquer our new economic and social frontiers. If we are to arrest the trend toward an ever bigger and more highly centralized government bureaucracy, we individually must join with others in effective voluntary programs.

Externally our efforts to build a peaceful world are being distorted by a clever and voluble international propaganda machine run from the Soviet Union. Will our own voice be clear and strong enough to be heard over the alluring and distracting noises from the Kremlin?

We are at the point in our world destiny where the methods and ideals that conquered the mountains and deserts are needed to win the minds and hearts of men. We must see that the truth about what we stand for and are doing is effectively presented to the people around the globe.

We must give the nation and the world a convincing demonstration of the powers of free men—cooperating with each other—by building a society in which we will achieve a higher expression of our spiritual, political, economic and social principles. Through example and more effective communication we must build a still greater age in America and in the world or see our past accomplishments and future opportunties perish before the ignorance and envy of others who yearn for what we have.

I believe voluntary cooperation is an indispensable means of building a greater age for all mankind because it is the practical expression of brotherhood in action.

Abstracts / SAFETY AND RELATED FIELDS

With this issue, the *Journal of the American Society of Safety Engineers* begins publication, as a regular feature, of abstracts of current literature on safety and other subjects of particular interest to Society members. While the *Journal* plans, during 1960, to develop its own system for surveying publications and abstracting pertinent articles, at present all abstracts are being supplied by Engineering Index Inc., Engineering Societies Library, 29 W. 39th St., New York 18, N.Y. Because of space limitations, comparatively few of the abstracts from this service can be published in each *Journal* issue. However, anyone who is interested may subscribe to the Index abstracts and, for a nominal charge, subscribers also may obtain photostatic copies of any of the articles which have been abstracted, as well as English translations of those published in foreign languages. For a free 16 page catalog describing these services, write to Engineering Index Inc.

ACCIDENT PREVENTION

Fold Up Your Scaffold Accidents. *Safety Maintenance*, CXVII, No. 4 (April, 1959), pp. 21-22. Recommendations for safety practices in erection and use of scaffolding equipment.

Give Vents to Flammable Liquid Tanks. *Safety Maintenance*, CXVII, No. 3 (March, 1959), pp. 46-48. Open type or conservation vent valve breather vents recommended for above ground flammable liquid tanks; emergency relief vents and flame arresters used; table given for required total pressure relief capacity of vents; two fires quoted as example of need for prevention against excessive internal pressure in event of exposure fire.

How One State's Safety Service Axes Accidents, M. P. Gatherwood. *Safety Maintenance*, CXVII, No. 4 (April, 1959), pp. 11-14, 59. How New York State Department of Labor has cut industrial accident rate by inaugurating safety consultant program; consultants inspect factories, locate and identify all sources of hazards and recommend safety procedures; each accident investigated; table of accident causes listed.

How To Smash Accidents to Pulp: Safety Equipment for Pulp and Paper Industry. *Safety Maintenance*, CXVIII, No. 1 (July, 1959), pp. 10-13. Hazards of processing procedures from log to finished paper enumerated, giving safety procedure and equipment suggestions for each.

Safety Equipment for Handling Hydrofluoric Acid. *Safety Maintenance*, CXVII, No. 4 (April, 1959), pp. 45-47. Protective equipment discussed includes safety goggles, face shields, acid-proof suits, types of masks and safety or "hard" hats, safety showers, eye baths, rescue equipment, gloves and accessories; important factors in prevention of acid injury listed.

Some Further Comments on Design of Eccentric Presses, A. P. J. Soepnel. *Sheet Metal Industries*, XXXVI, No. 390 (October, 1959), pp. 647-52, 656. Ram guides; effects of frame distortion; improved construction of ram guides; clearances and forces acting on press during working strokes; methods of fitting tool; prevention of overloading; spring cushioned connecting rod; friction clutch; constructional details described offer greater safety, productivity increase by 10 to 30 per cent, much greater performance accuracy, etc.

Spot Accidents in Advance, F. S. McElroy, G. R. McCormack. *Safety Maintenance*, CXVII, No. 5 (May, 1959), pp. 11-14, 29; No. 6 (June, 1959), pp. 27-28, 30; CXVIII, No. 1 (July, 1959), pp. 25-28, 58-59. Analysis conducted by U. S. Bureau of Labor Statistics of injury and accident causes in boiler shop products industry; records of 2,017 disabling injuries were collected and analyzed to determine what causes accidents, how and why employes are injured and how accidents can be prevented.

Take Firm Stand on Safety Soles. *Safety Maintenance*, CXVII, No. 6 (June, 1959), pp. 10-12. Five major type soles developed for wear, resistance, comfort and style: neoprene composition, neoprene-cord, neoprene-cork, cellular neoprene and neoprene crepe; brief description and uses given; seven safety shoes pictured with clue for each as to industrial usage; why particular shoe is adapted to specific job.

AIR POLLUTION

How Air Pollution Can Be Controlled. *Heating, Piping and Air Conditioning,* XXXI, No. 6 (June, 1959), pp. 137-52. Characteristics of common types of control equipment that have been used to collect solid and liquid particles carried in exhaust gas streams; where they have been applied and some design and installation suggestions.

How To Organize Air Pollution Control Program, O. C. Thompson. *Safety Maintenance,* CXVII, No. 5 (May, 1959), pp. 50-52. Program of Union Carbide Chemicals outlined; five step written policy specifically covering process wastes and related community relations listed; recommended steps include individual responsibility, assignment of inspectors, evaluation of program, information to plant personnel, cooperation with other industries, good community and press relations; actual case histories cited.

INDUSTRIAL HYGIENE

Are Torching Fumes Toxic? *Safety Maintenance,* CXVIII, No. 2 (August, 1959), pp. 46-47. Metals causing greatest hazards are cadmium, mercury and lead; symptoms of poisoning; protective measures include sufficient ventilation and air-line respirators.

Industrial-Hygiene Hazards in Water Supply Field, R. H. Mansur. *American Water Works Association Journal,* LI, No. 5 (May, 1959), pp. 655-58. Hazards of chlorine gas, emptying fluoride bags into feeder, and poisoning by lead fumes due to use of acetylene torches; accidents due to trapped gases from leakage of pipe lines or from natural decomposition in soil or in sewers; volatile solvents; hazards of painting, welding and of vapors of mercury-bearing instruments; control of hazards by Virginia Bureau of Industrial Hygiene.

What To Do about Dermatitis. *Safety Maintenance,* CXVII, No. 3 (March, 1959), pp. 34-40. Presentation of most common types and causes of skin diseases with recommended preventive measures as help for industry to establish sanitation programs to reduce dermatitis; chart lists 17 industries, working conditions, type of dermatitis common to each and preventive measures; 90 per cent of cases could be prevented by proper cleansing materials and methods.

NOISE CONTROL

Basics of Noise Control. *Safety Maintenance,* CXVIII, No. 1 (July, 1959), pp. 32-33, 39. Effects and methods of elimination or control of industrial noise; five means of noise reduction: improvement in machine design, substitution of operations, control at source, use of sound absorptive materiales and isolation of noisy machinery; ear protective measures given and employe education stressed.

Noise Reduction for Small Plant, J. E. Ancell. *Safety Maintenance,* CXVII, No. 6 (June, 1959), pp. 34-35, 41-45. How to measure and specify noise; recommended goals for maximum noise spectra in industrial plants shown in graph; noise reduction methods include vibration reduction, proper layout and distribution of machines, acoustical treatment and full or partial enclosure of machines; case histories given.

Response of Structures to High Intensity Noise. A. A. Regier, H. H. Hubbard. *Noise Control,* V, No. 5 (September, 1959), pp. 13-19, 58. Information on nature of noise-induced fatigue damage problem of aircraft structures; discussion of phenomena of energy transfer; characteristics and nonlinearities of structures; state of art of laboratory acoustic fatigue testing is considered in particular. 20 references.

Sound Barriers Reduce Noise, S. E. Moore. *Electric Light and Power,* XXXVII, No. 13 (July 1, 1959), pp. 46-48. Description of noise reduction measures at Philadelphia Electric Company's urban substation having provisions for ultimate of 12 transformers with total capacity of 920,000 kva at four voltage levels; four wall masonry enclosures were chosen because of location, though three wall enclosures are found to be more efficient in other places, in combination with low noise level transformers.

Soviet Tentative Standards and Regulations for Restricting Noise in Industry. *Noise Control,* V, No. 5 (September, 1959), pp. 44-49, 64. Tentative standards for permissible noise levels in industry; regulations for design and operation of plant units and buildings for purpose of reducing noise; basic definitions and conventional designations; methods of noise measurement; determination of permissible noise levels from graph of standards; testing intelligibility of speech under noise conditions. Regulations translated were compiled by I. I. Slavin and approved by USSR Ministry of Health.

NUCLEAR SAFETY

Microwave Radiation Hazards, W. E. Morgan. *Safety Maintenance,* CXVIII, No. 1 (July, 1959), pp. 16-18, 63. Although powerful microwave emissions produce heating effect on human body, examination shows no significant evidence of bodily changes or injury as result of occupational exposure from few days to period greater than 10 years; to guarantee safety of personnel five safety rules for microwave radiation are listed.

Nuclear Safety of Iron-Encased Fuel Elements, N. Ketzlach. *Nuclear Science and Engineering,* VI, No. 3 (September, 1959), pp. 187-90. Maximum safe limits on storage and shipment of slightly enriched fuels may be increased by addition of fixed neutron poisons; theoretical study, verified by experiment, presented to show that infinite amount of 0.95 per cent U^{235} enriched fuel will be subcritical when fuel elements are encased in tubing at least ⅛ inch thick; fuel elements considered are solid rods of 1.34 inch diameter and tubular elements of 1.37 inch OD and 0.48 inch ID.

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AMERICAN SOCIETY OF SAFETY ENGINEERS

Membership Information

THE American Society of Safety Engineers has established the following classifications of active membership.

ASSOCIATE MEMBER —To be eligible as Associate Member an applicant shall be at least twenty (20) years of age and

a. Shall have a degree in engineering from a college or university whose curriculum is accredited by the Engineers' Council for Professional Development or shall have legal registration as a professional engineer and, in addition, shall be engaged in safety engineering with at least one (1) year's experience, no time being credited to this one (1) year unless at least fifty (50) per cent of the time was devoted to safety engineering, or shall have supervision over the safety engineering function of his organization; or

b. Shall have a college degree other than that specified in "a" above and, in addition, shall be engaged in safety engineering with at least three (3) years' experience, no time being credited to this three (3) years unless at least fifty (50) per cent of the time each year was devoted to safety engineering; or

c. In lieu of a college degree, shall be engaged in safety engineering with at least five (5) years' experience, no time being credited to this five (5) years unless at least fifty (50) per cent of the time each year was devoted to safety engineering.

MEMBER —To be eligible as a Member an applicant shall be at least thirty (30) years of age, shall have the qualifications required for Associate Membership and also shall have (5) years' experience in addition to that required by and of a type defined in the subsection of the requirements for Associate Member which is applicable to him.

FELLOW —To be eligible as a Fellow, a Member shall be nominated upon the unsolicited recommendation of three (3) other Members, shall be at least forty (40) years of age, shall have been a Member for at least thirteen (13) years, and shall have been engaged in safety engineering for at least twenty (20) years, during at least five (5) years of which he shall have been in responsible charge of the safety engineering function of his organization. In addition, he shall have made an outstanding contribution to the safety engineering profession. Recommendations of candidates for the Fellow classification, along with substantiating data, shall be sent to the Secretary of the Society, who shall submit such recommendations and substantiating data to the Committee on Membership. The Committee on Membership shall report its findings to the Executive Committee for action. Fellows shall be elected by a majority vote of the Executive Committee.

AFFILIATE MEMBER —To be eligible as an Affiliate Member an applicant

a. Shall be at least twenty (20) years of age and shall be engaged in safety engineering with at least one (1) year's experience, no time being credited to this one (1) year unless at least fifty (50) per cent of the time was devoted to safety engineering; he may remain in this classification while qualifying for Associate Member or Member Classification; or

b. Not being engaged in safety engineering, shall be at least twenty-five (25) years of age and shall have pursuits, attainments in accident prevention, or practical experience, extending over a period of at least three (3) years, which shall qualify him to cooperate with members of the Society and to render service to the Society.

for additional information write to

The American Society of Safety Engineers
5 North Wabash Avenue, Suite 1705
Chicago 2, Illinois
(*or contact your local chapter*)

DULUTH'S TWIN WEIGHT LIFTERS PICK UP A JOB

NO OTHER SEAWAY PORT COULD HANDLE...

Wausau Story

AT DULUTH, MINNESOTA... *"Where the Seaway begins"*

by **C. A. BOESEL,** *President, Clyde Iron Works, Inc.*

"When a complete steel mill was shipped from England to Canada last summer, Duluth was the port of entry. For two reasons: Our twin Whirleys pictured above were the only cranes on the Seaway powerful enough to lift the dismantled parts from the ship's hold.

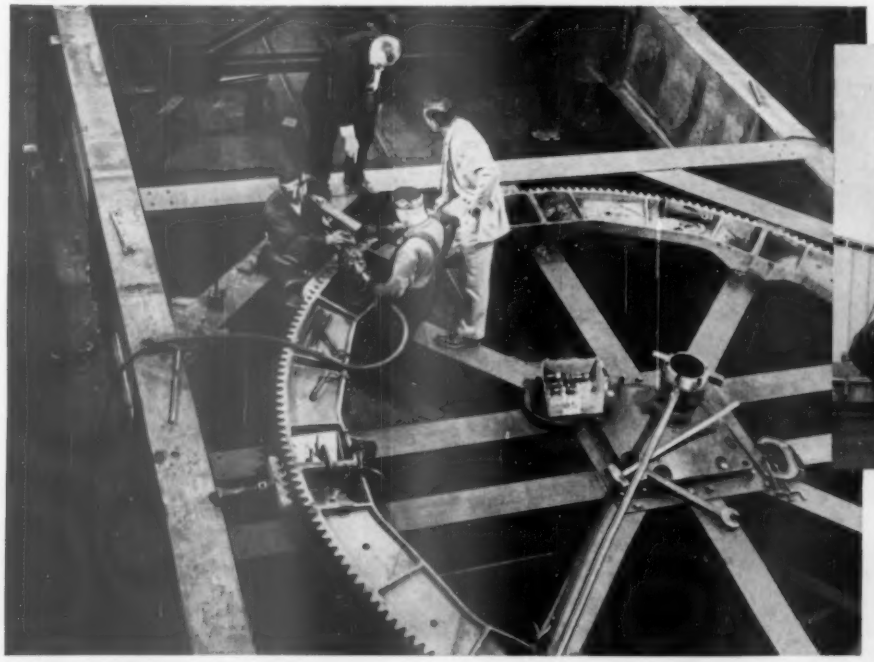
"The whole mill weighed almost 1050 tons, but it was a pair of 125-ton castings that provided the real test. Our Whirleys picked up those castings with ease and, in record time, put them down on the railroad cars that carried them on to Canada.

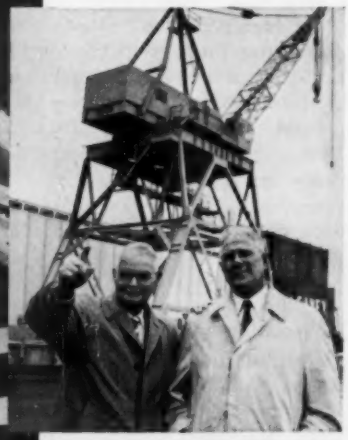
"Because we build our Whirleys to perform that way, it's natural that any product or service we buy has to pass rigid tests too. For example in buying our insurance, we wanted savings to come through long-term rate reductions rather than through dividends alone.

"That's why we became a policyholder of Employers Mutuals of Wausau and why we've continued to be for over 21 years now. We have an average 10-year credit of more than 27%. Employers Mutuals helped us make this saving with safety engineering services that earned us rate reductions. Excellent service. Always helpful. And at a saving that counts! Employers Mutuals are 'good people to do business with.' We know."

. . . . . .

With 109 Employers Mutuals offices throughout the United States, service is never more than a few hours away. We write all forms of fire, group and casualty insurance (including automobile) and we're one of the largest writers of workmen's compensation. Consult your telephone directory for your Wausau Man or write Wausau, Wisconsin.

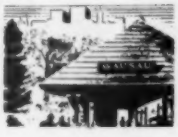




Duluth's busy port keeps twin Whirleys working. On an inspection tour: Mr. Kenneth Duncan, President of the Seaway Port Authority at Duluth (left) with Mr. C. A. Boesel.

The whirl in Whirleys comes from turntables that allow the rugged cranes to turn full-circle. At Clyde Iron Works, Inc., Superintendent Dan Pedersen points out a built-in safety feature to Russ Hammond, Employers Mutuals Safety Engineer.

Employers Mutuals *of* Wausau



"Good people to do business with"

Report on Disposal of Radioactive Wastes

Scientists from around the world recently were told that the disposal of low and intermediate level radioactive wastes to soil above the water table and controlled release to surface streams are sound methods of dealing with large volumes of radioactive wastes.

J. F. Honstead, General Electric scientist at Hanford, told the Conference on Disposal of Radioactive Wastes in the European principality of Monaco that in disposing of low and intermediate level wastes at Hanford, three main systems are utilized. They are:

1. The ability of soil to absorb and immobilize the radioactive elements is utilized.
2. Wastes are discharged into environmental materials with ensuing dilution to levels of no concern.
3. Wastes are injected into a path that is of long enough duration to permit suitable decay of radioactive materials before they reach a populated domain.

At Hanford, wastes that remain radioactive for a relatively long period of time are stored in huge concrete-encased steel tanks underground. The low and intermediate level waste streams are disposed directly to the ground in the 600-square-mile Hanford reservation, with rigorous control and monitoring.

Hanford is ideally located for safe disposal of wastes because of its isolation from populated areas, its semi-arid surroundings, its deep water table below the desert surface, and suitable geologic conditions, according to Honstead.

Although low concentrations of various waste components have been found in wells which are used at Hanford to monitor the ground waters near disposal sites, Honstead said the ground waste disposal practice at Hanford has been so managed that no movement of radioactive fission products to the river has been detected.

Large amounts of Columbia River water are pumped through Hanford's eight reactors to serve as a coolant. This water, which becomes slightly radioactive, is held in retention basins until most of the short-lived radioactivity decays and then it is dumped back into the river.

Water is regularly sampled immediately below the reactors and downstream at Pasco and Kennewick where drinking water is taken from the river. No accumulation of long-lived fission products has ever been found in the Columbia.

Studies by Hanford scientists also show that exposure is far below the maximum permissible limit for members of the public near the plant who consistently drink the river water, eat fish from it, or participate in swimming and boating.

President's Conference

—*From page 46*

preventing job accidents rests with the states and on employers, the federal government's role is to emphasize the national interest and concern in safeguarding the health and safety of wage earners and to provide technical assistance and information on accident prevention.

Invitations are extended by the President of the United States on recommendations made by private and public groups concerned with job safety in our industrial economy.

These include the Chamber of Commerce of the United States, the National Association of Manufacturers, the American Federation of Labor—Congress of Industrial Organizations, the National Safety Council, the American Standards Association, the American Society of Safety Engineers, the American Association of Industrial Nurses, the Junior Chamber of Commerce, the Industrial Medical Association, state labor departments, the Small Business Administration, the U.S. Bureau of Mines, the Interstate Commerce Commission, the Federal Safety Council, trade associations, insurance companies, and educational institutions.

Library

—*From page 58*

Mary Louise Brown. *Industrial Medicine and Surgery*. December 1959. pp. 548-550.

Radiation

"Effects of Environmental Temperature and Air Volume Exchange on Survival of Rats Exposed to Microwave Radiation of 24,000 Megacycles." William B. Deichmann, E. Bernal and M. Klepinger. *Industrial Medicine and Surgery*. December 1959. pp. 535-538.

"Radiation Hazard Control." Leonard Horn. *Best's Fire and Casualty News*. November 1959. pp. 29-31, 34-35.

"Radiation Protection—Standards and Laws." D. C. Fleckenstein. *Journal of Occupational Medicine*. December 1959. pp. 643-647.

Railroads

"GN Mechanizes Car Cleaning Work." *Railway Age*. Dec. 7, 1959. pp. 26-27. (A unique pushbutton cleaning system for freight and gondola cars.)

"Shipping the Atom: Railroad Challenge and Opportunity." Joe W. Kizzia. *Railway Age*. Nov. 23, 1959. pp. 20-21, 24-25, 39.

Wastes

"An Industrial Hydrogen Sulfide Air Pollution Control and Monitoring Program." J. A. Monferdini and G. T. McBride, Jr. *Industrial and Engineering Chemistry*. December 1959. pp. 89A-90A.

ADDRESSES OF MAGAZINES

Readers are asked to send their requests for copies of magazine articles to the publishers. The NSC Library is unable to fill such orders.

American Machinist, 330 W. 42nd St., New York 36.

Best's Fire and Casualty News, 75 Fulton St., New York 38.

Industrial and Engineering Chemistry, 1155—16th St., N. W., Washington 6, D. C.

Industrial Medicine and Surgery, P. O. Box 44-306, Miami 44, Fla.

Journal of Occupational Medicine, Industrial Medical Assn., 28 E. Jackson Blvd., Chicago 4.

The Lumberman, Miller Freeman, 731 SW Oak St., Portland 5, Ore.

Pacific Factory, 709 Mission St., San Francisco 3.

The Plant, Plant Publishing Co., St. Joseph, Mich.

Quarterly, National Fire Protection Assn., 60 Batterymarch St., Boston 10, Mass.

Railway Age, Simmons-Boardman Co., Orange, Conn.

U. S. Armed Forces Medical Journal, Superintendent of Documents, Washington 25, D. C.

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1. Award of Honor
Available to (a) units which complete 3,000,000 man-hours without a disabling injury, and (b) units whose records, though not perfect, meet exacting standards. These standards take into account the previous experience of the unit as well as the experience of the industry in which it operates. A unit must qualify on both frequency and severity rates.

2. Award of Merit
Has similar but less exacting requirements. Minimum number of man-hours is 1,000,000.

3. Certificate of Commendation
For injury-free records covering one or more calendar years and totaling 200,000 to 1,000,000 man-hours.

4. President's Letter
For injury-free record covering one or more calendar years and totaling less than 200,000 man-hours.

Details of eligibility requirements may be obtained by writing to Statistics Division, National Safety Council.

Award of Honor

Continental Can Co., Inc., Washington, Pa.

Ford Motor Co. (2): Power and Utility Services, Steel Div.; Marine Services, Steel Div.

The Garrett Corp., Airesearch Manufacturing Company of Los Angeles.

Hughes Aircraft Co., Culver City, Calif.

International Business Machines Corp., San Jose, Calif.

National Distillers and Chemical Corp., Frankfort Div., Frankfort, Ky.

North American Aviation, Inc., Autonetics, Downey, Calif.

Olin Mathieson Chemical Corp., Film Div., Pisgah Forest, N. C.

Rohr Aircraft Corp., Chula Vista, Calif.

J. P. Stevens & Co., Inc., Victor Plant, Greer, S. C.

Union Carbide Chemical Co., Technical Center, South Charleston, W. Va.

Union Carbide Nuclear Co., Y-12 Plant, Oak Ridge, Tenn.

Westinghouse Electric Corp., Air Arm Div., Baltimore, Md.

Award of Merit

Aluminum Company of America, Refining Div., Mobile, Ala.

American Viscose Corp., Nitro Plant, Nitro, W. Va.

Armco Steel Corp., Butler Works, Butler, Pa.

The B. F. Goodrich Co., Tuscaloosa, Ala., Plant.

The Borden Co., New Orleans, La.

Chrysler Corp., Los Angeles Plant, Car & Truck Assembly Group.

Continental-Diamond Fibre Corp., Bridgeport, Pa.. Plant.

Ford Motor Co. (3): Lima Engine Plant, Engine and Foundry Div.; Nashville Glass Plant, Glass Div.; Rolling Mills, Steel Div.

General Electric Co. (2): Sales & Dist. Dept., Appliance Park, Louisville, Ky.; Asheboro, N. C., Plant.

The Griscom-Russell Co., Massillon, Ohio.

Hassenfeld Bros., Inc., Central Falls, R. I.

Kimberly-Clark Corp., Fullerton, Calif., Mill.

Minnesota Power & Light Co., Duluth, Minn.

Phoenix Steel Corp., Plate Div., Harrisburg, Pa.

Radio Corporation of America, TV, Radio "Victrola" Div., Cambridge, Ohio.

Solar Aircraft Co., San Diego, Calif., Plant.

Westinghouse Electric Corp. (2): Materials Manufacturing Dept., Blairsville, Pa.; Standard Control Div., Beaver, Pa.

AWARD OF MERIT TO POST OFFICE DEPARTMENT

HOWARD PYLE, president of the National Safety Council (second from left), helps raise the Award of Merit pennant over the Post Office Department building in Washington. The award was presented for injury reduction throughout the entire postal establishment. Postmaster General Arthur E. Summerfield stands in front of President Pyle. At right are Assistant Postmaster General Eugene J. Lyons and Edward B. Landry, Director of Safety and Health.

Hood Koroseal—a plastic-coated glove that solvents won't stiffen

ORDINARY plastic gloves stiffened, became completely useless when used around solvents. Hood research men developed a special Koroseal compound to solve the problem. This tough plastic can withstand solvents, light oils, and just about everything else that ruins ordinary plastic gloves. The result is Hood's "Koroseal Flexigluv".

In the test shown above, the ordinary plastic glove on the left is stiff and unusable after only one hour in the strong solvent, "xylol". After 4½ hours the Koroseal Flexigluv on the right is still soft and flexible.

Hood's Koroseal Flexigluv has still other advantages over ordinary plastic-coated gloves. It retains flexibility at low temperatures. There's no obnoxious odor to linger on workers' hands and spoil their meals. And it wears longer, gives greater finger dexterity, because the fingers have no seams on the wearing surface. Flexigluv is made with a two-piece jersey shell, comes in knit wrists (K-200), 12" (K-201) and a 14½" (K-202) gauntlet.

Improvements like those made in the Hood Flexigluv can be found in other industrial gloves of the Hood line, which includes latex gloves, and gloves coated with neoprene and rubber, in addition to Koroseal. For more information, call your Hood distributor, or contact *Hood Industrial Gloves, Dept. N, Watertown 72, Massachusetts.*

Koroseal—T. M. Reg. U. S. Pat. Off.

HOOD *industrial gloves*

The President's Medal

Awards made by the National Safety Council for successful application of artificial respiration

RAYMOND J. ADAMS, pumper, Texaco, Inc., Houston, Tex.—drowning.

EDWARD N. APPLEGATE, JR., line helper, Public Service Electric & Gas Company, Newark, N. J.—electric shock.

GIOVANNI BISANTI, gardener, Chateau de Tannois, Tannois (Meuse), France—drowning.

HAROLD BODE, lineman, Waiahi Electric Co., Ltd., Kauai, Hawaii—electric shock. Certificate of Assistance to James Gerardo and Fred Thronas.

HARRY S. BRESCIA, gas streetman, Central Hudson Gas & Electric Corp., Poughkeepsie, N. Y.—asphyxiation.

RALPH G. BRITTON, inspector, U. S. Army Engineer District, Corps of Engineers, Walla Walla, Wash.—resuscitation of motor vehicle accident victim.

LLOYD L. BURBRIDGE, driller, Mitchell Drilling Co., Division of Union Nuclear Co., Uravan, Colo.—electric shock.

RALPH E. CULBERTSON, lineman, Laurens Electric Cooperative, Inc., Laurens, S. C.—electric shock.

OFFICER GEORGE M. CUTHILL, Seattle, Wash., Police Dept.—drowning.

FIRMINO DE LAZZER, carpenter foreman, The Hydro-Electric Power Commission of Ontario, Toronto, Canada—drowning.

CHARLES H. ELSTRODT, chemical engineer, Hooker Chemical Corporation, Niagara Falls. N.Y.—gas asphyxiation.

MISS SHIRLEY FERRELL, student, Memphis, Tenn.—drowning.

CHARLES R. GOODALL, electrician, Aluminum Company of America, Davenport, Iowa—electric shock. Certificate of Assistance to PAUL A. RURY and DONALD C. FIFIELD.

WILLIAM G. HAGUE, inspector, Indianapolis, Ind., Police Department—resuscitation of motor vehicle accident victim.

W. HOWELL HAYES, construction superintendent, Paul Smith Construction Company, Cocoa Beach, Fla.—electric shock.

ROBERT E. IRWIN, meter reader, Florida Power Corp., St. Petersburg, Fla.—drowning.

DOUGLAS P. LACKEY, student, Wayne, N.J.—drowning.

ALVIN L. LAWRENCE, meterman's assistant, The Cincinnati, Ohio, Gas & Electric Company—drowning.

LLOYD L. LYNNEBERG, foreman, Hulsart Manufacturing Co., Tuscaloosa, Ala.—electric shock.

BENNIE MCGOWAN, unit operator, Sinclair Oil & Gas Co., Tulsa, Okla.—asphyxiation. Certificate of Assistance to Terrell H. Wright, Oliver Knoche, and S. E. Varner.

WESLEY G. MAPES, lineman, Michigan Bell Telephone Company, Jackson, Mich.—electric shock.

WILLIAM H. MORRELL, welder, International Harvester Company, Springfield, Ohio—resuscitation of motor vehicle accident victim.

EARL RICHARDS, bulldozer operator and laborer, Kitsap County Road District No. 3, Suquamish, Wash.—electric shock.

ROBERT RIVARD, maintenance man, The Shawinigan Water and Power Co., Montreal, Canada.—drowning.

ALEX SEAY, laborer, Texaco, Inc., Houston, Tex.—drowning.

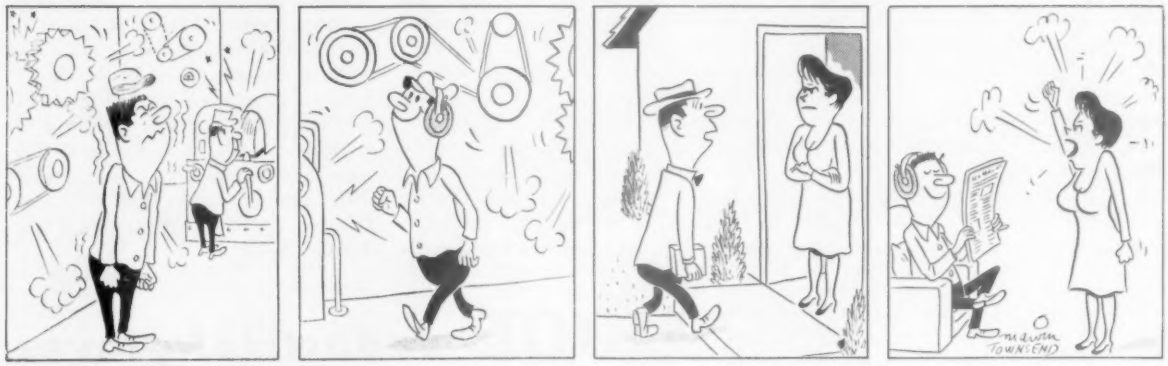
BRUCE VARISCO, lobsterman, Green Head, Stonington, Maine—drowning.

NORMAN E. WAAG, owner-manager, Waag Enterprises, Parma, Ohio—drowning.

EDWARD I. WILLIAMS, airman first class, United States Air Force, Sewart Air Force Base, Tenn.—drowning.

SGT. GEORGE WHITMAN, officer, Bellvue, Wash., Police Department—resuscitation from heart attack.

BERT



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but you *do* have beams, stocks, drums and other bone-crushing weights, and here's an effective way to help protect your men: Thom McAn Highguards. Highguards offer a protection many safety shoes don't provide: *they help to eliminate painful injuries to the instep area.* Yet for all their heavy-duty toughness, they're kind to feet, light, comfortable, easily flexed for easy stooping. The snap-top tongue (a Thom McAn exclusive) keeps out dirt and gravel. The Neoprene® cord sole gives maximum protection against acids and chemicals. The steel toe is leather-lined. Ask for style #S-4117, sizes D 6-12, EE 6-12.

Send coupon for details of our complete safety shoe line. And for set of free safety posters too.

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Gentlemen. Please send me the following at once: (Check service required)

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- ☐ Illustrated list of Thom McAn Safety Shoes
- ☐ Set of safety posters

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"Mr. Clean" Tours the Plant

Equipped with mop, false eyebrows, and safety slogans, "Mr. Clean" recently toured Chrysler Corporation's Imperial Assembly Plant in Detroit.

John Wlosinski, materials foreman, played the role from the back of a white truck, as fellow workers drank free coffee. To "Mr. Clean" theme music Wlosinski spoke on safety and housekeeping. He used a portable sound system.

"Impact and acceptance were great," Chrysler safety men said.

The Steve Allen Show rushed "Mr. Clean" head adornments from Hollywood. The Procter & Gamble organization provided the theme music.

Incidentally, the boys climbed on the stationary truck just to pose for the picture. They didn't ride around the plant that way.

New Ceramic Offers Many Uses

A new ceramic material with a unique combination of properties has been announced by General Electric Company.

"For the first time in history," said Dr. C. Guy Suits, vice-president and director of research, "a polycrystaline ceramic that transmits light readily has been made from powders. In addition to transmitting light, the new material has the high strength characteristics of alumina ceramics, can withstand much higher temperatures than most ceramics now in use, and can be pressed into any desired shape. No other material combines translucence with this degree of strength, heat resistance, and ease of fabrication."

"Lucalox," as the new material is called, is made from powdered aluminum oxide. It is closely related to sapphire and ruby gem stones, which are single-crystal aluminum oxide. But GE's polycrystalline form of the same compound is superior to these gems in its ability to withstand high temperatures without deforming. Lucalox, it is claimed, has the composition of a ceramic, the structure of a metal, and light-transmitting ability approaching that of glass.

The unique characteristics of Lucalox result from the fact that the microscopically small pores, or "bubbles," normally found in ceramic materials, have been removed. Because of elimination of pores, it is possible to read through a sheet of Lucalox when it is laid flat on a piece of paper. At greater distances it appears translucent, resembling frosted glass. At least 90 per cent of light in the visible spectrum is transmitted.

The basic material of Lucalox is fine-grain, high-purity aluminum oxide, or "alumina." The powder is pressed at room temperature, then fired at temperatures higher than usual for ceramics.

The development of Lucalox is expected to enlarge scientific, military, and industrial uses of ceramics. As with many new materials, Lucalox should also extend the range of instruments and devices that are now limited by the physical characteristics of available materials.

One example would be high-intensity incandescent and discharge lamps, now limited by the heat-resistance of their transparent envelope. Fused quartz, often used for high-temperature lamps, performs satisfactorily up to 1,800 F; Lucalox is stable at temperatures close to 3,600 F.

Another likely application is in banks of infrared lamps used to test the heat-resistance of missile nose cones and other space vehicle equipment. It may also be used as an electrical insulator and as a material for gem bearings in delicate equipment.

Present ceramic materials can be divided into three general categories:

Conventional ceramics, such as porcelains, in which crystals are bonded together by low-melting glass. These approach the density of the new material but are limited by the low melting point of the bonding glass.

Oxide ceramics, more or less single phase, are stronger than porcelains, but because they are filled with light-scattering pores, are opaque.

Single crystals, such as sapphire and ruby, are transparent, but limited in size and shape and extremely difficult to fabricate.

Lucalox has a metal-like structure, in that its crystals are bonded directly to one another, with neither pores nor a glass matrix between them. Information gained from the study of this material may consequently be applied to powder metallurgy.

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offers a complete range of safety eyewear, for every eye protection need.

SAF-I Flexible Frame Cover Goggles

are available in 6 styles (3 shown here), featuring maximum protection, generous ventilation and true wearing comfort. "Airflow" models are guaranteed non-fogging.

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For impact protection—an excellent cover goggle.

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For impact, chemicals, dust protection—a good cover goggle. Choice of button screen, hooded screen or grid vents.

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For impact and glare protection. One - piece lens and brow bar.

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Utah Training Program

MAINTENANCE FOREMEN from one of Utah Highway Department's districts gather for safety meeting. Fixing reel on movie projector is Keith M. Macfarlane, safety coordinator. Standing, l. to r.: Floyd Fullmer, John Sundblom and Lester Averett, foremen.

A STATEWIDE program to train personnel in safety is now being conducted by the Utah State Road Commission, according to Elmo R. Morgan, director of highways. The program had its inception last year, when Keith M. Macfarlane was appointed safety coordinator for Utah's Road Commission.

The move is aimed at lessening accidents at state road construction sites and reducing construction costs for the state. The program also calls for a vigorous educational program with maintenance employees of the Highway Department.

The latter phase of the operation is now under way through Macfarlane's activities. This will take him into Utah's six highway districts. Working with foremen and supervisors, he will conduct a three-hour safety course, in which the state's program for maintenance operations will be presented. He will also discuss procedures for handling accident forms, reports and statistics.

The safety coordinator has recently completed another phase in the state safety program with a course on first aid, taught to key personnel in the state.

Men in the six districts received a 10-hour course qualifying them to receive a standard first-aid card from the American Red Cross. Key personnel who received the training will see that each member of a maintenance crew will be able to earn a standard certificate in first-aid work.

Officials of Utah's Highway Department have declared, "We would like the traveling public to be aware of this new safety program. Every one of the state's bright yellow painted trucks is really an auxiliary of the Red Cross."

It is expected that road crews can give first-aid help to motorists, to members of contracting firms on construction jobs and to state employees.

Another phase of the safety program for Utah has been the use of an accident prevention clause inserted into construction contracts. It is believed this technique has placed Utah among the first states to add such a provision to their contract specifications.

Contractors are required to comply with existing state safety rules and Commission-approved safety manuals and to file reports on accidents involving personnel or machinery.

Revise Code for Power Trucks

A revision of American Standard Safety Code for *Powered Industrial Trucks,* B56.1-1959, has been approved by the American Standards Association and published by The American Society of Mechanical Engineers.

The revision includes a new appendix on stability tests, which describes the construction and use of a tilting platform test device for industrial trucks. Four tests can be made with this platform—longitudinal stability while stacking and while traveling, and lateral stability while stacking and while traveling.

Representatives of government and labor, as well as users and manufacturers of industrial trucks, served on the ASA sectional committee that drew up the standard and keeps it up to date. The project was sponsored by ASME.

Powered industrial trucks include fork trucks, platform trucks, crane trucks, and tractors used in factories and other industrial operations. The code does not cover over-the-road equipment or earth-moving machinery.

Elements of design, operation, and maintenance of powered industrial trucks are covered by the code. The current revision includes nomenclature changes as well as the new section on stability test criteria.

The 48-page publication covers such design and construction features as overhead guards, steering geometry, braking efficiency, and capacity ratings. Safety and maintenance rules for the use of industrial trucks are included.

The revised American Standard Safety Code for *Powered Industrial Trucks,* B56.1-1959, including the new appendix on stability testing, is available at $1.50 a copy from The American Society of Mechanical Engineers, 29 West 39th Street, New York 18, or from the American Standards Association, 70 East 45th Street, New York 17.

LATEST NEWS INDEX READY

The index for Vol. 80, July-December, 1959 of the NATIONAL SAFETY NEWS is now available from the NSC Library. Address: Librarian, National Safety Council, 425 N. Michigan, Chicago 11, Ill.

now...aluminum safety hats and caps by WILLSON® with the right combination for effective head protection

tough aluminum alloy shell *plus*
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Willson Geodetic Strap Suspension dissipates impact shock waves over wide head area. *Wearer can sustain much heavier blow without injury* (above left). *It minimizes danger of "bottoming"* by conforming to "geodetic" lines of head (center). Geodetic Strap Suspension (above right) spreads and balances weight of hat and *prevents slipping and tipping. Tamperproof* crown straps permanently fitted to head shape always maintain *1-1/4 in. or more clearance.*

Here it is . . . the *right combination* aluminum safety hat so many have asked for: Tough aluminum alloy shell reinforced with safety ribs for extra strength, yet lightweight . . . plus *exclusive* Willson Geodetic Strap Suspension for tamperproof protection against shock of impact. Smooth satin finish of shell is sun-reflecting for cool comfort in hot weather . . . generous shell clearance provides excellent air circulation . . . rolled edges add rigidity to brim. Choice of hat or cap style as shown . . . with the *right combination* for safety, comfort, appearance. Call your Willson distributor or write direct for full information on this newest advancement in head protection.

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Circle Item No. 36—Reader Service Card

Diary of a Safety Engineer

—From page 31

him, if I saw some bad housekeeping, and let him clean it up. If he did, I didn't report it. I figured my job was not to report bad conditions but make 'em good."

I told him I sometimes did the same thing—but not always. I explained that while it was correction that was needed, we safety men simply were not numerous enough to be on the ground and dictate every correction that was needed.

I added: "We've got to use the report-through-channels often to keep supervision on its toes, trying to keep themselves off the report. Only in that way can we expect them to anticipate housekeeping problems."

Then I turned to the matter of flammable liquid storage. He said, "Boss, I just didn't see that. And if I had, I'm not sure I'd have known that any damn thing was wrong. I'm sorry, but I guess this is a subject I've got to read up on."

Then I brought up the matter of the electrical installation in the construction area. "Jeez, boss," Bert said, "I didn't figure that was my business. Those guys don't work for any company with space in the project. They're a bunch of carpenters and masons from a contracting firm out of Chicago. And, anyhow, it don't seem reasonable to expect an outfit to do a fancy job of installing temporary wiring."

I'm afraid I bellowed after that speech. Stripped of the emotion and arm-waving, what I said amounted to this:

1. *Every* man who works on the project is the responsibility of the safety staff of the project. And, in fact, some employees of the company which will occupy the plant being built are on the construction site every day and are endangered by the electrical hazards.

2. Nobody expects a temporary installation to be "fancy," but it is our job to make every installation, temporary or permanent, safe.

Bert looked crestfallen. "I feel like a dope," he said.

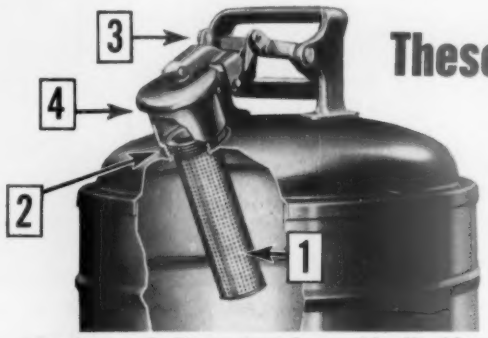
"You are not a dope unless you make the same mistake twice," I replied.

When I brought up the ice at the plant entrance, Bert replied, "Boss, that's a complicated situation. I saw it all right. I talked to the maintenance man. He told me he'd get some sand on it just as soon as some sand arrived. That was supposed to be the next day. And I know that outfit. A tightwad is what the super is, a little Napoleon on the make trying to look good by keeping his costs down."

I interrupted to say that sand wasn't very expensive.

"No," Bert went on, "I don't mean the sand. I mean he don't have half the maintenance staff he needs. The guy I talked to told me how overworked his crew is, and how tough it is to keep up with all they got to do. So I says to him, 'Listen here, you jerk, let me write this up, and we'll send it in to the project, and maybe somebody'll hop on your super and make him hire some hands for you.'

"But this janitor guy, he says, no, that won't work. It would just



These Features Put the "SAFE" in PROTECTOSEAL SAFETY CANS

Storing and dispensing flammable liquids with Protectoseal Safety Cans is your best insurance against the risk of accident or hazard. Protectoseal Safety Storage and Supply Cans incorporate every known feature—many of them exclusive—to assure safe, efficient control of flammable liquids and vapors.

The difference between a Protectoseal Safety Can and any other safety can is in these features—many of them not apparent from casual inspection.

When you are specifying or buying safety cans, it will pay you to check the "hidden values" you get in Protectoseal Products, because these are the values that make Protectoseal Safety Cans the safer, better buy every time.

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DOUBLE WALL FLAME ARRESTER
Provides a durable double barrier against flame entering can. If inner wall is damaged, outer wall provides protection until the unit is replaced.
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Rugged, Mechanically Joined Spout
with Vapor Sealed Flame Arrester.
Machine-threaded flame arrester and tightly secured spout connection is vapor-tight to prevent flame from by-passing the arrester.
3 Quick Acting Dispensing Valve with Shock Guard Carrying Handle
Convenient hand operation provides fast, positive control while pouring. Instantly closes when hand pressure is released. Handle design prevents accidental opening of dispensing lever while carrying or when can is bumped or dropped.
4
Leak-Resistant Gasket and Tight Spout Seal
Special gasket mounted in spout cap withstands deteriorating effects of most petroleum solvents. Spring operated cap of Spout Seal has ball and Socket joint to assure uniform, self-adjusting liquid-tight seal.
5
Automatic Pressure Relief
Spring mounted spout cap opens automatically to relieve excessive internal vapor pressures. On release of vapors, spring tension closes cap.

Case History No. 105

Fullerton Manufacturing Corp.

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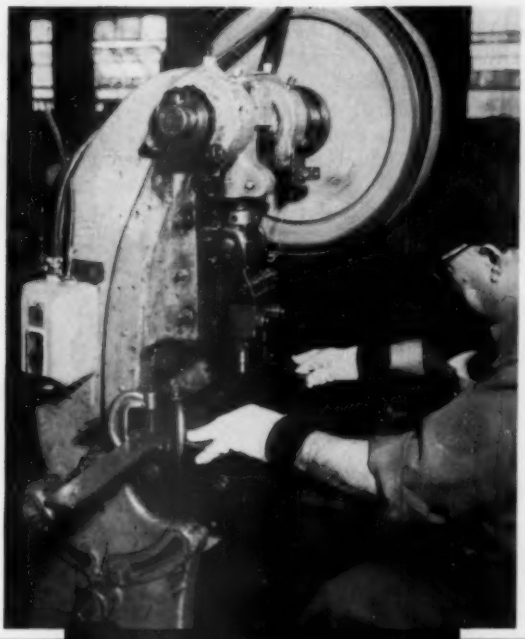

Riegel Roadmaster No. 70-6406 on the job at Fullerton Mfg. Co.

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GLOVE NOW USED: Riegel Roadmaster™ Glove No. 70-6406, with exclusive non-skid Mighty-Dot™ palm, for safe, sure grip.

SAVINGS: "Riegel Roadmaster costs us 43% less than the glove previously used, and we get slightly longer wear. Result: We Save $35.00 per man!"

COMFORT: "Our men prefer Riegel Roadmaster because it is more comfortable, absorbs perspiration, permits freer air circulation and has excellent gripping qualities."

Here is another saving made possible because Riegel Industrial Analysts fit the right glove to the job. For help in reducing *your* glove cost, call or write Riegel today.

*Trademark "Roadmaster"

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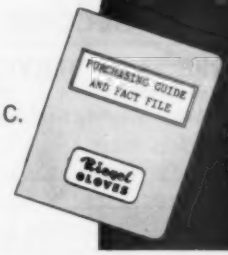


Write for free Glove Purchasing Guide and Case History File

get him in bad with the super. So I says, 'Okay, just this one time. You get sand on those steps, even if you have to go down to the beach at Lake Obijibway and dig some, and I'll keep you off the report.' But the mug doublecrosses me, and makes me look bad to you."

Bert stopped, looked into my face, gave a sheepish grin, and added, "That dumb janitor's my wife's uncle."

After I had told Bert just how wrong he had been in handling this case and made it clear to him that none of his boners represented a failure that put his job in jeopardy, I sent him off with my other assistant to look over some plans for a conveyor installation in a warehouse on the project.

I turned to my secretary and said, "Now just why is the problem with a rough and ready loudmouth like Bert that he goes too easy in his inspections? Just about any soft-spoken boy out of engineering school would be counted on to be too tough and demanding."

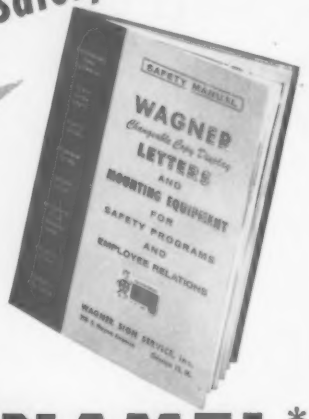
I don't suppose I really expected Mary to answer me, but she did. "I'd think it was pretty obvious," she said. "The college-trained man without practical experience thinks everything can be made book-perfect by waving a hand. The shop-trained man is so familiar with the problems the shop men face that he tends to sympathize with anybody who has a plausible story to explain his shortcomings. And he has friends and relations."

I should have seen that myself, but I had to acknowledge that Mary was right. Next I asked, "Does that mean that you think it a mistake to hire a man off the shop floor for this department?"

Mary shook her head. "No," she said. "It still seems like a good idea to me. But you are used to training assistants who can be counted on to err in one direction. Now you have to get used to one who has to be corrected in the opposite way. You'll get used to it, and maybe the department will be better balanced with a man like Bert in it."

Mary went back to typing some letters for me, and I reflected for the umpteenth time in my long professional career that half-educated young people can sometimes be downright exasperating in the way they tell me things I should have been wise enough to figure out for myself.

Free! – Data File on Potent Safety Promotion



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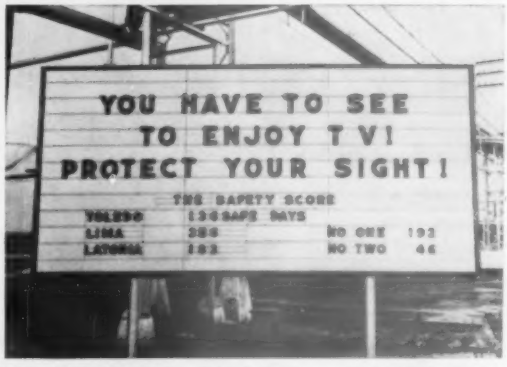

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Spray them away with GARLON, the low-cost weed and grass killer

Weeds and grasses have taken over this siding, invading the switches, rusting the fences, creating a fire hazard. Under old-fashioned methods this would have meant weeks of work for an extra crew at prohibitive labor costs.

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Garlon is easy to use, too. Simply add the required amount of water, mix, and you're ready to spray. Your own crews can do the job, or a professional contractor will do it very inexpensively. Spot re-treatment if needed, is just as easy and inexpensive.

It all adds up to lower-cost control of trouble areas like fences, sidings, storage areas, drainage ditches, parking lots. And the cost gets progressively lower! Once you start a program of chemical vegetation control, you'll find fewer sprayings are required each year to knock out weeds and grasses.

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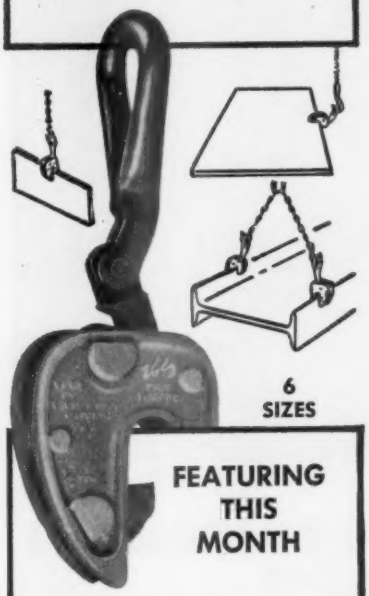
Imitated, but never duplicated, Merrill Lifting Clamps are Drop Forged to give you Safety in Handling and Economy in Operation.



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1-60

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Employee Booklets

EMPLOYEE education booklets are a basic part of your safety program. The National Safety Council publishes a wide variety of such booklets which can help shape sound safety attitudes or instruct your employees in the safe practices related to their work or off-the-job activities. Sample copies of recent booklets are available by circling the key number of the ones you want on the Reader Service Card at the back of this issue.

YOUR FUTURE—KEEP IT CLEAN

A booklet dealing with the problem of housekeeping in the plant. Colorful cartoons with breezy captions build a strong case for good housekeeping. Stock No. 195.79. Eight pages, 3½″ x 6¾″, full color illustrations. **Circle No. 503—Reader Service Card.**

A PROFESSIONAL CODE FOR DEFENSIVE DRIVING

Dedicated to the millions of professional drivers who developed and refined the concept of "defensive driving" as their approach to the hazards of the highway, this booklet presents the defensive driving technique for all drivers. Stock No. 294.09. Twenty pages, 5¼″ x 8¼″, multicolored illustrations. **Circle No. 514—Reader Service Card.**

ACCIDENTS IN THE OFFICE

Brightly colored and presented in an eye-appealing way, this new booklet will help alert your "white collar" staff to the common hazards found in their occupational environment. "Accidents in the Office" fills a long-felt need. Stock No. 195.50. Eight pages, 3¾″ x 8″, two-color illustrations. **Circle No. 515—Reader Service Card.**

BEFORE IT'S TOO LATE!

Dedicated to "all the brave firemen who try to arrive before it's too late," this booklet tells the tragic story of home fires and how to prevent them. Real-life pictures taken at the time of a fire help dramatize the message. Stock No. 599.82. Twelve pages, 3¾″ x 8″, two-color photographs and illustrations. **Circle No. 516—Reader Service Card.**

FRED FLAME, THE FIERY DELINQUENT

Somewhat humorous in approach, this booklet deals with the deadly serious problem of preventing industrial fires. Written in a simple, direct style, it should drive the message home to your employees. Stock No. 195.81. Sixteen pages, 3¾″ x 8″, illustrated. **Circle No. 517—Reader Service Card.**

WHO GETS HURT?

"Who Gets Hurt in Industrial Accidents?" is the question asked—and answered by this new, multicolored cartoon booklet. Using a humorous approach, this booklet tells the complete on-the-job injury story in a concise manner. Stock No. 192.96. Sixteen pages, 3¾″ x 8″, full-color illustrations. **Circle No. 519—Reader Service Card.**

A SIMPLE DO-IT-YOURSELF PROJECT

The safety of a worker's fingers—industry's best production tools—is the subject of this booklet. Cartoons and brief copy help remind workers of the do's and don'ts of hand safety. Stock No. 194.22. Eight pages, 3¾″ x 8″, two-color illustrations. **Circle No. 520—Reader Service Card.**

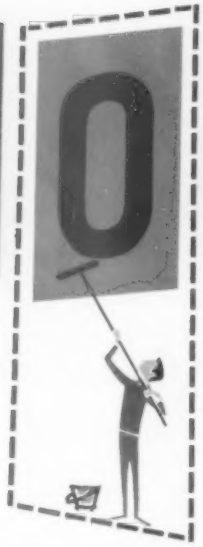
For information on other Council employee training publications write to National Safety Council, 425 N. Michigan Ave., Chicago 11.

NEW SAFETY POSTERS

FEBRUARY 1960

Regular poster users will receive this bulletin by mail each month. Add it to your 1960 Poster Directory to keep it up-to-date.

Keep 'Em POSTED!



. . . FOR EFFECTIVE RESULTS IN YOUR SAFETY PROGRAM

Put new posters up... hold your accident rate down

JUMBO POSTER FOR APRIL, 1960

ADD IMPACT

JUMBO POSTERS

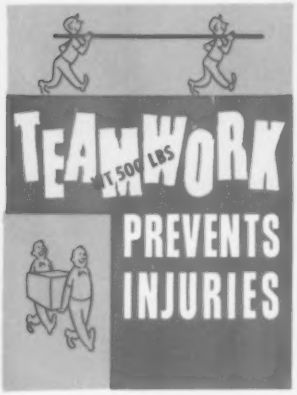
Giant safety messages that are 11'8" wide by 9'11" high. Colorfully printed and weather resistant, these posters command attention. Issued monthly, JUMBO posters will add drama and impact to your safety program . . . and get big results!

SAFETY BANNERS

A powerful safety message, skillfully designed and colorfully printed on cloth. They measure 3½ ft. high by 10 ft. long. Available in 2-types—outdoor and indoor. Issued monthly, these banners can be spotted in strategic locations in and around the plant.

1634-A 8½x11½

1635-A 8½x11½



1800-B 17x23

THERE'S AN EFFECTIVE POSTER

. . . for every problem

. . . for every program

Schedule your posters for use at least two months in advance. Many successful programs are planned one year ahead.

Poster #1635-A (adjacent) is especially suitable for posting at the Easter season; #1634-A suggests spring housekeeping; and #1818-B has the ever-popular baseball theme.

For other special appeals, check your new 1960 Poster Directory.

1846-A 8½x11½

1673-B 17x23

1792-A 8½x11½

1763-A 8½x11½

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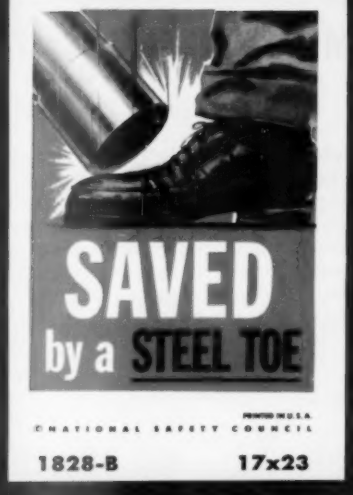
1718-A 8½x11½



©NATIONAL SAFETY COUNCIL

1828-B 17x23

©NATIONAL SAFETY COUNCIL

1818-B 17x23

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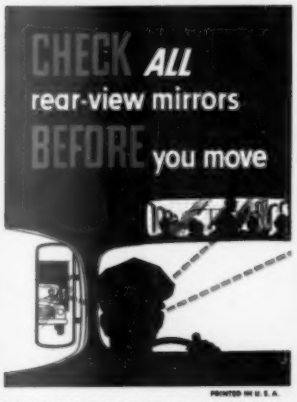
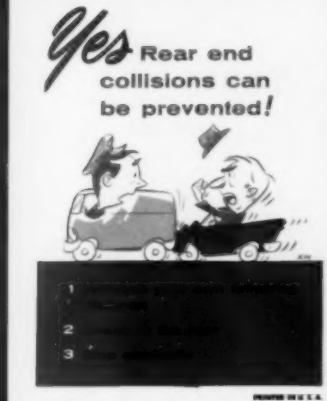
V-1807-A 8½x11½



©NATIONAL SAFETY COUNCIL

V-1805-A 8½x11½



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V-1806-A 8½x11½

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1637-A 8½x11½

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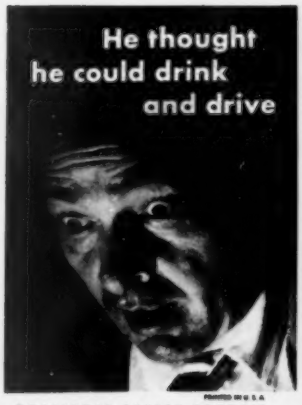
T-1833-C 25x38
T-1834-A 8½x11½



©NATIONAL SAFETY COUNCIL

T-1836-B 17x23

YOUR POSTER PROGRAM SELLS SAFETY . . . 'ROUND THE CLOCK!

You can't beat National Safety Council posters for adding *visual impact* to your safety program. They're the "color spectaculars" that make repeated visual impressions of the importance of safety in your workers' daily lives, in and out of the plant. Poster subjects should be related to plant accident experience, thus pinpointing causes, hammering home prevention ideas and achieving effective results. For further information or program planning aid, write direct to the Membership Service Division, National Safety Council.

Here's how to use posters most effectively

1 SELECT POSTERS FOR VARIETY

Select a balanced supply of posters in a variety of sizes and the proper proportion of thought-provoking vs. inspirational, serious vs. humor, long-message vs. short.

2 PLACE POSTERS STRATEGICALLY

Tell the effectiveness of different locations. Use short "flash" type posters where traffic is on the move. Longer messages are more effective where workers congregate or move slowly . . . such as washrooms, lunchrooms, toolrooms, smoking areas, etc.

3 DISPLAY POSTERS ATTRACTIVELY

Provide bulletin boards or frames for displaying your posters. Most important of all, see that your posters have adequate lighting, natural or electric, so they can be easily seen and read. Select the proper height for display in locations where viewers are walking or seated. Do not crowd too many in one location or clutter them by surrounding with other material.

4 CHANGE POSTERS FREQUENTLY

Posters not intended for permanent display should be changed once a week. Regular rotation of posters insures maximum interest and attention, keeping workers aware of the importance of safety in their jobs.

ORDER YOUR POSTERS TODAY!

Cash in on the timeliness, repetition and continuity of a poster program by placing your order now. Order posters from these pages or refer to the National Safety Council 1960 Poster Directory. The complete directory is available for 60c a copy. An automatic monthly poster service is also available at an annual low cost. Write The National Safety Council for further information.

POSTER PRICES*

Cat. No.	Type and Size	Single	2 to 9	10 to 99	100 to 999	1000 to 4999
182.13	"A" (8½x11½")—Any selection, each	.....	.....	$ .12	$ .07	$ .06
182.23	"B" (17"x23")—Any selection (except prefix "T"), each	.....	.....	.23	.195	.155
381.23	"B" (17"x23")—Any selection with "T" prefix, each	.....	.....	.20	.165	.132
381.31	"C" (25"x38")—Any selection	.40	.40	.30	.24	.22
184.41	JUMBO POSTERS — Annual subscrip., each (12 posters)	$ 69.00	67.00	65.00	61.00	
	SAFETY BANNERS — Annual subscrip., each (12 banners)					
188.51	INDOOR	93.00	87.00	83.00	79.00	
188.61	OUTDOOR	100.00	95.00	90.00	85.00	

**Members receive 10% discount on these prices. Please enclose check or cash with orders less than $3.00. Prices are subject to change without notice. Quantity prices apply only on a single shipment to one location. Other terms are stated in official price lists.*

NATIONAL SAFETY COUNCIL
425 N. MICHIGAN AVE. · CHICAGO 11, ILLINOIS

PRINTED IN U.S.A.

PERSONALS

News of people in safety and related activities

Heads Sinclair Safety

Formation of a separate safety department and the appointment of managers of the personnel and safety departments of Sinclair Oil & Gas Company have been announced by William H. Morris, president.

HADLEY H. MYERS, personnel representative in charge of safety and training, was named manager of the new safety department.

JOHN D. SULLIVAN, personnel representative, was appointed manager of the personnel department.

Safety has been a part of the personnel department's activities headed by HENRY W. BOGGESS who became full-time director of aviation for Sinclair Companies beginning January 1.

Myers joined Sinclair in 1930 in Tulsa and has been engaged in safety work throughout his 30-year career. He attended the University of Tulsa. He is a member of the American Society of Safety Engineers, past president of Veterans of Safety, and is chairman of the American Petroleum Institute committee of safety and fire protection in production and drilling.

SAM MCKAY, JR., who has held the position of safety supervisor for the eastern area of the Bell Telephone Company of Pennsylvania, has been appointed supervisor of safety for the company on the staff of the personnel vice-president. His new duties will involve all areas and departments of the company and will include off-the-job and community safety.

Mr. McKay was born and brought up in Wilmington, Del., and upon completion of his formal education joined the Diamond State Telephone Company as a station installer. He held various assignments in the Plant Operation Department and in 1942 was appointed district chief clerk. In 1946 he was transferred to the Bell Telephone Company of Pennsylvania in Philadelphia on the staff of the general plant personnel manager and in 1947 was appointed area safety supervisor.

He is general vice-chairman and a member of the Executive Committee, Board of Governors, Philadelphia Safety Council; a member of the National Executive Committee, American Society of Safety Engineers, and past president of the Philadelphia Chapter; a member of the Executive Committee, Public Utilities Section, National Safety Council; the Planning Committee of the Institute of Public Safety of Pennsylvania State University; Veterans of Safety; Delaware Safety Council; Montgomery County Safety Council; Delaware County Highway Safety Council; Mayor's Committee for Civil Defense in Philadelphia, and general chairman of the 1959 Philadelphia Regional Safety and Fire Conference.

•

GLENN F. GRIFFIN, NSC director of training for the past 13 years and a member of the Council staff for 25 years, retired January 1. He will continue work as an independent consultant in industrial training and accident prevention.

Retained by the Council for special assignments, Mr. Griffin will revise the *Supervisor's Safety Manual,* for 1961 publication. He also will reorganize the Supervisor's Home Study Course, now operating on trial with 200 student correspondents, and is scheduled to work on other training material writing projects.

From 1920-35 he was assistant personnel director in charge of safety and training for the American Seating Company, Grand Rapids, Mich.

In 1935 he joined the NSC staff as director of membership services and later supervised the Bureau of

—To page 120

Hadley H. Myers

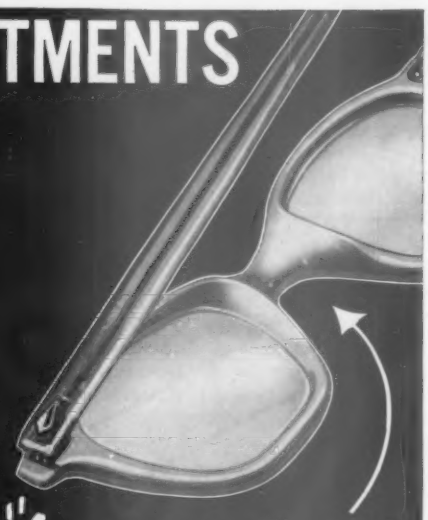
Samuel McKay, Jr.

Glenn F. Griffin

Circle Item No. 42— Reader Service Card

NO ADJUSTMENTS NEEDED!

High bridge . . . low bridge . . . wide bridge . . . narrow bridge — regardless of facial contour these new EyeGard "Adapta-Spec" Safety Spectacles fit almost every user without any adjustment. Saves time and trouble in fitting. Prevents accidents — so comfortable no one objects to wearing them. Saves money by reducing inventories and purchasing of many separate types. Ask your distributor —or write for details and attractive prices today.



EYEGARD "ADAPTA-SPEC"
SAFETY SPECTACLES
FIT ALMOST ANY WEARER

AMERICAN INDUSTRIAL SAFETY EQUIPMENT CO.
3501 LAKESIDE AVENUE CLEVELAND 14, OHIO
Division of The Burdett Oxygen Company, Cleveland, Ohio

put your production
IN SAFE HANDS
with SURETY
SURESEAL GLOVES

SURESEAL MOST SPECIFIED WHERE

- the handling of acids and other corrosive materials demand maximum hand protection.
- production requirements prescribe fast, sure handling of caustic liquids.
- positive protection against crippling and disfiguring accidents is a necessity.
- longer glove life is needed.

Surety Sureseal Gloves, (made from Hycar) give positive protection against the greatest number of acids and other corrosive liquids and wear up to 14 times longer than competitive materials. They are more snag, abrasion and puncture-proof and the exclusive Surety Turn-Cuff gives added protection for arms and prevents liquid from getting into the glove.

Tell us your requirements and test a pair today — at our expense. Write on your letterhead naming your glove jobber and you will receive a pair by return mail.

THE SURETY RUBBER CO.
CARROLLTON, OHIO

IN CANADA: Safety Supply Co., Toronto

Sharing Safety

—From page 64

boys and girls, Mother and Dad could check radiation sources—even their own watch dials.

There was also a driver's seat mock-up to test each driver of the family on reaction time between seeing a red light and applying the brakes. Safety shoes, eye protection, lockout procedures, safety tool guards—all were presented in interesting displays.

As added attraction we had an exhibit built around the Washington State Safety Slogan Award won by one of our employees and a picture of him receiving the award from Governor Albert D. Rosellini.

The results—extremely satisfying. Entire families participating in safety was something new. Many people walked in with a look of skepticism about a safety program and left with a feeling of satisfaction at having learned something the complete family can use. Many employees expressed appreciation for our efforts to show their families what Dad is doing at the plant.

Just as important was the proof to those of us working in safety that the supply of material is boundless. Things we wanted to display and could not do so for lack of space would have filled another room as big as the school cafeteria we used. Work, interest, and enthusiasm about safety blended together to make this a successful venture. Pleasing the families doubled the reward.

LIFE SAVING · SENIOR ·

Red Cross safety training helps to save lives

Good things happen when you give

NOW-

Series E Bonds

turn $18.75 into $25.00 fourteen months quicker than ever before

YOUR MONEY GROWS 33⅓%
IN JUST 7 YEARS AND 9 MONTHS
WITH NEW SERIES E BONDS

Here are three new reasons why today's Savings Bonds are the best ones in history:

1. ***Every Bond bought since June 1, 1959, earns 3¾% interest when held the full term. Series E Bonds now mature in 7 years, 9 months—fourteen months faster than ever before.***
2. ***Your older Bonds now earn more—an extra ½% from June 1 on, until maturity.***
3. ***All Series E Bonds, old and new, carry an automatic extension privilege now. This means they'll automatically keep earning liberal interest for 10 years beyond maturity.***

You get these new advantages, plus complete safety, guaranteed return, and protection against loss or theft when you save with Bonds. And there's no easier way to save. You can buy Bonds automatically through the Payroll Savings Plan at work, or from any bank. Plan to start saving with U.S. Savings Bonds—they're the *best ever.*

YOU SAVE MORE THAN MONEY

with U.S. Savings Bonds

The U.S. Government does not pay for this advertising. The Treasury Department thanks The Advertising Council and this magazine for their patriotic donation.

Try this...with any sling other than a Cable-Laid!

• You would soon discover that even a smaller sling has nowhere near the flexibility, resistance to kinking and freedom from crankiness that this two-inch ACCO *Registered* Cable-Laid Sling exhibits. While we do not recommend that you use Cable-Laid Slings like this, we do urge that you use these versatile slings for any lifting application where ease of handling is all-important.

The secret of ACCO Cable-Laid Slings lies in the construction of the wire rope—a combination of six individual wire ropes, not strands, laid around a special steel center. For this reason, Cable-Laid Slings won't kink—even when used on heavy loads with square corners.

ACCO Cable-Laid Slings are clean and bright because they're Galacco coated. Patented DUALOC endings also double-lock sling ends for double security.

And, of course, ACCO Cable-Laid Slings are *Registered* Slings. This is your assurance that each sling is proof-tested at twice its rated load-carrying capacity. Then, and only then, does it merit the ACCO tag and certificate of registration.

Ask your nearby distributor about Cable-Laid—or write us at Wilkes-Barre, Pa., for **Folder DH-532** listing strengths and weights of a full range of Cable-Laid Slings.

ACCO Registered
WIRE ROPE SLINGS

Wire Rope Sling Dept. · American Chain & Cable Company, Inc.
Atlanta, Chicago, Denver, Houston, Los Angeles, New York, Odessa, Tex., Philadelphia, Pittsburgh, Portland, Ore., San Francisco, Bridgeport, Conn.
In Canada: Dominion Chain Company, Ltd., Niagara Falls, Ontario

ACCO

Personals

—From page 117

Information and NSC library. In 1940 he became a member of the Council's Industrial Department, serving as safety engineer.

In 1947 Mr. Griffin was appointed director of industrial training and director of the Council's training courses. He has also supervised production of industrial training films for the Council.

Mr. and Mrs. Griffin will continue to live in Park Ridge, Ill.

J. & L. Safety Appointments

Management changes in the Safety Department at the Aliquippa Works of Jones & Laughlin Steel Corporation have been announced by Paul H. Devaney, works manager.

HAROLD W. GILBERG has been appointed works safety administrator. He formerly was assistant superintendent, Safety and Welfare Department.

Mr. Gilberg succeeds EARL H. HOUCK, who has retired from his duties as superintendent of safety and welfare after more than 33 years' service.

JAMES L. MERCER, has been appointed assistant works safety administrator. He formerly was a safety inspector.

Mr. Gilberg has been employed at the Aliquippa Works since October 1945, and has been a member of the Safety Department since February 1947. He was named assistant superintendent of the department in September 1955.

ENOS CURTIN, investment banker of 40 Wall Street, New York, was elected president of the National Society for the Prevention of Blindness at the annual meeting of the National Society held in December. He succeeds Ira V. Hiscock, Sc.D., recently retired chairman of the Public Health Department at Yale University.

Mr. Curtin is president of the Ophthalmological Foundation and is a member of the board of the New York Association for the Blind. He is a trustee and a member of the executive committee of St. Barnabas Hospital and a director of Madison Square Garden.

CHARLES F. MASTERSON has been named assistant to the chairman of the trustees of the National Safety Council. Formerly engaged in business management work for the Rumbough Co., Masterson has had extensive experience in fund raising and public relations.

He has been director of the New York City Mission Society, special

C. F. Masterson

assistant to President Eisenhower, assistant treasurer of the United States Committee for the United Nations, and director of public relations for Poly Prep of Brooklyn, N. Y.

As staff administrator of the Council's Public Service Fund, Masterson will have the responsibility of carrying out the work of the Council's trustees in obtaining funds from business and industry for the public service work of the Council.

A graduate of Long Island University, Masterson holds M.A. and Ph.D. degrees from Columbia University. Prior to entering public relations and fund-raising activities, he was engaged for a number of years in school administration.

DR. R. EMMET KELLY, medical director for Monsanto Chemical Company, St. Louis, has been appointed chairman of the Medical Advisory Committee of the Manufacturing Chemists' Association.

The committee's advisory service includes preparation of information on toxicology of industrial chemicals, on medical treatment for exposure

One of these sling chains will meet your most exacting needs

One-day delivery is forthcoming when you specify ACCOLOY KUPLEX Sling Chains. Made up locally by an authorized KUPLEX distributor, these slings feature matched components which have been proof-tested at the factory at twice working load limits to assure their being as strong as the chain itself.

Factory-built all-welded construction is assured when you buy ACCO *Registered* Sling Chains. Registration ring and certificate—signed by ACCO—attest to the successful test performance of the sling.

See your local distributor for ACCO *Registered* or ACCOLOY KUPLEX sling chains. If by chance he does not carry the sling you want, write our York, Pa., office for further details.

ACCOLOY KUPLEX

• Available in 6 chain sizes (¼" to ⅞") in single, 2-leg, 3-leg and 4-leg styles. Assembled from Shaped Master Link, Drop Forged Kupler and Hook, ACCOLOY 125 chain.

ACCO Registered®

• Factory-built with ACCOLOY 125 chain. Chain is welded under scientific control and heat treated to optimum strength levels. New Shaped Master Link withstands deformation under heavier loads.

ACCOLOY KUPLEX SLING CHAINS

ACCO Registered® SLING CHAINS

ACCO **American Chain Division • American Chain & Cable Company, Inc.**
Bridgeport, Conn. • Factories: *York and *Braddock, Pa., *San Francisco, Calif.
Sales Offices: *Atlanta, Boston, *Chicago, *Denver, Detroit, *Houston
*Los Angeles, New York, Philadelphia, Pittsburgh, *Portland, Ore. *San Francisco
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CUT GLOVE COSTS

GIVE ADDED PROTECTION with

JOMAC

INDUSTRIAL GLOVES

Leading manufacturers everywhere are cutting costs and increasing worker-safety by changing to Jomac terry cloth work gloves. Jomacs are made of thick loop-pile fabric that cushions the hands, protecting them against sharp edges and rough surfaces. They are made from various weights of cloth for specific applications. Any two make a pair, since they are completely interchangeable, and they can be reconditioned time after time—will give extraordinary wear. Fill in the coupon below for more information and a free copy of the Jomac Work Glove Catalog.

Jomac also manufactures North PVC Coated Gloves and wet weather garments.

Jomac sells quality and quality sells Jomac

Plants in Philadelphia, Pa., and Warsaw, Ind. IN CANADA: Safety Supply Company, Toronto

JOMAC INC., Dept. D
Philadelphia 38, Pa.

☐ Send a copy of your work glove catalog
☐ Have a representative call

Name_____
Company_____
Address_____
City_____ State_____

and essential first-aid measures for publication in the association's chemical safety data sheet series.

Dr. Kelly received his degree in medicine from St. Louis University in 1932. He was appointed medical director of Monsanto in 1936, serving until 1942 when he joined the U.S. Army. Discharged in 1946, he returned to Monsanto.

Dr. Kelly also is senior instructor in internal medicine at St. Louis University, a member of the board of directors of the St. Louis Heart Association, member of the council of the American Therapeutic Society and is active in other professional organizations.

Vice-Chairman of MCA's Medical Advisory Committee is DR. T. W. NALE, medical director of Union Carbide Corporation, New York.

Appointment of FRANCIS J. (BUD) DERY as safety director for Ford Motor Company has been announced by R. T. Ross, manager of employee services. Formerly safety engineer for the Metal Stamping Division, Dery succeeds Raymond D. Harvey, resigned.

Francis J. Dery

Dery's career in safety work began when he entered military service in 1943. As a member of the U.S. Army Counterintelligence Corps, he investigated causes of airplane crashes.

After discharge in 1946, he served as safety engineer for the Murray Corporation until 1954, when he

joined the Ford Metal Stamping Division as safety engineer.

He is a graduate of the Henry Ford Trade School and of the company apprentice school. Born in Detroit, he now lives with his wife and three children in Dearborn, Mich.

Two Engineers Promoted At Underwriters' Laboratories

ALBERT J. STEINER is the new fire protection engineer for Underwriters' Laboratories, Inc., and JACK A. BONO has been named managing engineer of the Fire Protection Department.

After graduating from Armour Institute of Technology (now I.I.T.) in 1921, Mr. Steiner joined the U.L. staff as assistant engineer in the Protection Department. In 1936 he received a master's degree in fire protection engineering, and in 1947 became managing engineer of U.L.'s Fire Protection Department. Mr. Steiner has been instrumental in developing a method for determining fire hazard classification of building materials.

Mr. Bono was graduated from Northwestern University in 1946 and joined the U.L. staff as assistant engineer in the Gases and Oils Department. In 1949 he transferred to the Extinguisher Division of the Fire Protection Department. He was appointed associate engineer in 1950, and in 1958 became senior associate engineer.

Changes at Armstrong Cork

GEORGE W. NICKEL, JR., has been named manager of safety for the Armstrong Cork Company, Lancaster, Pa.

He will supervise the company's safety programs.

Nickel has served as supervisor of safety and fire protection for the company's floor plant in Lancaster for the past three years.

During his 10 years with the Armstrong organization, Nickel has served as a chemist in the Research and Development Center and the company's South Gate, Calif., and Lancaster floor plants.

He was graduated from the University of Pennsylvania with a B.S. degree in chemistry in 1948 and received his master's degree in chem-

New Kidde carbon dioxide portables awarded highest U.L. rating!

Belleville, N. J. — A spokesman for Walter Kidde & Company announced here today that four of the company's new portable fire extinguishers have been awarded the Underwriters' Laboratories highest ratings for their respective capacities. To those interested in fire safety, this means that, pound for pound, these new Kidde units have more fire-killing power than any other carbon dioxide extinguishers on the market today.

Available in 15 and 20 pound capacities, in either squeeze valve or trigger models, these power-packed Kidde units feature new hose and discharge horn assemblies, which are responsible for their extra fire fighting ability. The new assembly is supplied also with Kidde's 10 pound carbon dioxide portable which has a U. L. rating not exceeded by any other extinguisher of its capacity. This hose-horn combination is also being offered as a replacement unit for existing 10, 15 and 20 pound carbon dioxide units, and when attached will upgrade their effectiveness equal to the new ratings.

For more information on these top-rated Kidde carbon dioxide portables write Kidde today.

Kidde

Industrial and Marine Division
Walter Kidde & Company, Inc.
245 Main St., Belleville 9, N. J.
Walter Kidde & Company of Canada Ltd.
Montreal — Toronto — Vancouver

istry from Virginia Polytechnic Institute in June 1949.

Nickel succeeds Amos S. Keen who is retiring after more than 46 years of service with Armstrong.

KENNETH B. CORBETT has been named to succeed Nickel as supervisor of safety and fire protection at the Lancaster floor plant.

MARSHALL E. PETERSEN has been named staff representative of two Industrial Department sections of the National Safety Council.

He will be staff engineer for the Council's Meat Packing, Tanning and Leather Products Section and the Fertilizer Section. He also will be consultant fire protection engineer for the department.

Petersen has a B.S. degree in safety and fire protection engineering from Illinois Institute of Technology, Chicago. He has attended Northwestern University's Traffic Institute and the Ansul Chemical Co. fire training school.

He is a member of the American Society of Safety Engineers and the Greater Chicago Safety Council.

Marshall E. Petersen

Before coming to the Council, Petersen was a traffic safety engineer with the Cook County (Ill.) Highway Dept. and with the Illinois Division of Highways; supervisor of safety and fire protection, Allied Chemical Corp.; industrial hygiene engineer, Illinois Department of Labor; and industrial safety engineer, Argonne National Laboratory.

E. G. DYETT, JR., of West Newton, Mass., has been elected 1960 president of the National Noise Abatement Council at the annual meeting of that organization at the Institute of Physics in Boston. Dyett, who is in charge of the Instrument Division of H. H. Scott, Inc., succeeds A. J. Weitzel, of New York.

Organized in 1941 to alert the public to the menace of unnecessary noise in industry, street and home, the Council sponsors the annual Noise Abatement Week and awards plaques and certificates to municipalities for outstanding anti-noise campaigns. It also gives awards to industries which contribute to the reduction of noise through product improvement and educational programs. The Council sponsors and

STOP
MIS-GUIDED MISSILES

with MOTT
Hammer-Knife Mowers!

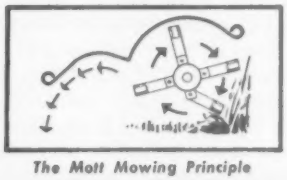
Here is the safest . . . the most versatile mower available today! The free-swinging blades of the patented MOTT Hammer-Knife mower fold back upon contact with obstructions . . . return to cutting position when clear . . . thus eliminating the danger of flying sticks, stones and other debris. Nothing—not even the clippings, are thrown from the mower.

The best of both rotary and reel are combined to provide an even cut regardless of roughness of terrain or condition of the grass . . . even when wet! The cutting action of the knives cut and re-cut the clippings into a fine mulch and deposit them evenly behind the mower.

Smooth even lawns . . . or tall man-sized weeds—ALL are cut and shredded in just one pass! AND there are 32 models to choose from—18″ to 19 ft. gangs. Leaf mulching attachments for all mowers. Ideal for industrial tracts, estates, parks and schools.

One demonstration will convince you! Write for complete literature and the name of your nearest MOTT dealer

mott® HAMMER KNIFE® MOWERS



The Mott Mowing Principle

MOTT CORPORATION • 4012 Eberly St. • Brookfield, Ill.

distributes the *Noise Abatement Digest,* reporting on developments in noise abatement.

Buxton and Miller Promoted at Aerojet

W. W. (WALLY) BUXTON has been appointed to the newly created position of corporate safety director for Aerojet-General Corporation, Sacramento, Calif.

Buxton joined Aerojet in 1958, forming the new safety division for the Solid Rocket Plant in Sacramento. Previously, he had been safety director at American Cyanamid Company's Plastics and Resins Division, Pittsburgh, Pa.

He also served 12 years at Liberty Mutual Insurance Company, and for three years was safety engineer with the Philco Corporation.

He will coordinate the over-all company safety program for the firm's 24,000 workers in the U.S. and abroad.

FRED S. MILLER of Aerojet has been named manager of the Solid Rocket Plant Safety Division to replace Buxton.

OBITUARIES

DR. MILLER McCLINTOCK

DR. MILLER MCCLINTOCK, dean of the nation's traffic engineers and a vice-president of the National Safety Council, 1927-30, died January 10 in Scarsdale, N. Y. He was 65 years old.

Dr. McClintock was born in Cedar Rapids, Neb., June 13, 1894. He received his A. B. degree from Stanford in 1918, Ph.D. from Harvard in 1924 and D.Sc. from Tufts in 1938.

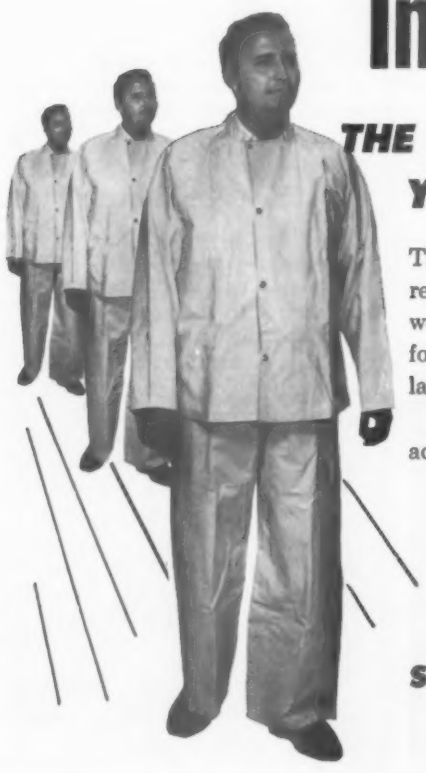
After serving as instructor in English at Stanford for three years, he became assistant professor of municipal government at the University of California in 1924. In this position he started some of the earliest studies in traffic and police administration and in 1925 founded the Bureau of Street Traffic Research at Harvard which he headed until 1938. He was author of many articles on traffic problems and served as consultant to many cities and states and to the federal government.

Realizing the importance of advertising in educating drivers and pedestrians, he became a director of the Advertising Research Foundation in 1933. In 1942 he left the Foundation to become executive director of The Advertising Council, Inc. From 1942 to 1944 he was president of the Mutual Broadcasting System.

ALBERT N. WOLD

ALBERT NELSON WOLD, 30 year member of the National Safety Council and an NSC field representative from 1946-54, died December 26 after suffering a heart attack at his home in Minneapolis, Minn. He was 71 years old.

Born in Cummings, N. D., he later received a B.A. degree from the University of North Dakota in 1910 and earned a degree in law from the same university in 1912. For three years he was chief clerk of the North Dakota legislature at Bismarck, leaving this post to join the Insurance Federation of America in 1916.



Introducing HI-GLO

THE NEW OUTDOOR SAFETY GARMENT YOU CAN "SPOT A MILE AWAY"

The secret of HI-GLO's unusual visibility is the newly developed, highly reflective intense yellow color.* Add HI-GLO's chemical resistance and weather resistance to this high visibility and you have the ideal garment for outdoor work. Lightweight HI-GLO garments come back from the laundry time after time after time in top condition.

HI-GLO is self extinguishing . . . withstands a wide variety of mild acids and chemicals . . . and shows excellent abrasion resistance.

SD 4045 HI-GLO coat and SD 4046 HI-GLO overall feature StaSafe's exclusive armored seams for full liquid-tight protection.

*We will stencil company or department name in sharply contrasting red for quick identification, at a slight additional cost.

STANDARD SAFETY EQUIPMENT COMPANY
431 NORTH QUENTIN ROAD • PALATINE, ILLINOIS

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He became general manager of the insurance and safety departments of Minnesota and Ontario Paper Company in 1927. During the 1930's Mr. Wold specialized in safety supervision of many federal works projects. He and his associates set a number of national safety records in this period, and he authored several safety manuals that were adopted by the federal government.

In 1941 he was named regional safety director for the U.S. Department of Labor. From Omaha, Neb., he supervised safety inspection of 6,200 midwestern war production plants. His region consistently won first place awards for various national safety records.

Mr. Wold prepared the safety manual adopted by the U.S. Army 7th Service Command and several other commands. He also organized industrial safety schools at Minneapolis and St. Paul, and instructed safety engineering at the University of Minnesota and Omaha University.

He was co-founder of the Minnesota Chapter of the American Society of Safety Engineers and also held membership in the Veterans of Safety, American Bar Association, American Society of Agricultural Engineers, American Marketing Association, and various fraternal and social organizations.

Mr. Wold is survived by his widow, Magna P. Wold; three sons —Albert W. of Los Angeles, Theodore R. and Robert N., both of Minneapolis; two brothers; and four sisters.

Circle Item No. 49—Reader Service Card

Circle Item No. 50—Reader Service Card

JOHN C. PANGBORN

JOHN C. PANGBORN, co-founder of Pangborn Corporation, died at his home in Hagerstown, Md., on Christmas Eve. Industrialist and civic leader, he was 75 years old.

He was born in Leroy, Minn. With his brother, Thomas W. Pangborn, he founded their blast cleaning and dust control manufacturing firm in New York City in 1904. The organization moved to Hagerstown in 1912.

Active in sales work, he also served in recent years as vice-chairman of the firm's board of directors and of the Pangborn Foundation.

LLYLE G. BENTLEY

LLYLE G. BENTLEY, general safety agent for the Chesapeake and Ohio Railway Company from 1918 until his retirement in June 1947, died November 12.

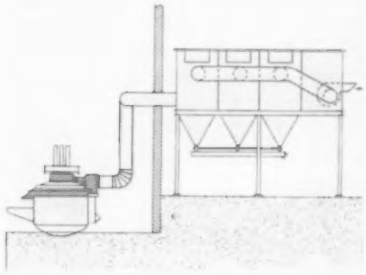
Mr. Bentley was born in Iona, Mich., June 26, 1875. Entering the service of C & O as a telegrapher in May 1896, he became superintendent of the C & O Hospital Association in 1908. In 1918 he was appointed general safety agent.

During his service as safety officer he served as general chairman of the National Safety Council's Railroad Section and chairman of the Safety Section, Association of American Railroads.

He was the founder of the Chesapeake and Ohio Railway Veteran Employees Association.

Exhaust Hood For Electric Furnace

A new exhaust hood which makes possible highly effective dust, fume and smoke control for electric melting furnaces has been introduced by the Pangborn Corporation, Hagerstown, Md., manufacturers of abrasives and blast-cleaning and dust-control equipment. The new hood is simple in design, operates with reduced air volume and minimum interference with charging, pouring, or other furnace operations.



Hood exhausts dust, fumes, and smoke from electric furnace to bag collector system. Synthetic fiber filters can withstand high temperatures.

The hood consists of a combination distribution section and slag spout hood; a roof manifold ring and baffle; a pouring spout hood (all attached to the furnace shell) and an electrode hood attached to the furnace roof. The connection to the exhaust system and cleaning equipment is made at the distribution section and either a flexible or a telescoping and swivel connection is used to keep the hood under constant suction during furnace tilt.

The distribution section is located over the slag spout and captures the smoke, fume, and dust from this area. A baffle in the lower part of the distribution section regulates the amount of air exhausted at the slag spout and reduces short-circuiting of the air at this point.

The roof manifold ring captures the dust and fumes from around the periphery of the roof. It is connected to the distribution section and an opening is provided in the distribution section for connection to the electrode hood. Adjustable openings in the manifold ring provide equal air distribution around the entire ring. The pouring spout hood is attached to the roof manifold ring and openings are provided in the ring for ventilation at the pouring spout.

The electrode hood encloses the area immediately around the electrodes and openings are provided in the top of the hood for the electrodes. A connecting duct provides connection between electrode hood and distribution section.

On top-charge furnaces, the electrode hood and connecting duct are attached to and swing aside with the furnace roof. As the connecting duct leaves the distribution section, an adjustable spring-loaded gate or damper closes the opening in the distribution section allowing the air normally used at the electrode hood to be added to the roof manifold ring for capturing the dust created by the charging operation.

A bag dust collector with synthetic fiber filter fabric for the elevated temperatures involved removes fumes and dust to comply with most rigid air pollution control requirements.

Circle Item No. 51—Reader Service Card

SAFETY GRIP-STRUT

Patented

Standard tread with standard nosing. Also with abrasive nosing.

STAIR TREADS

for greater safety • for greater economy

Use Safety GRIP-STRUT stair treads throughout your plant, on your manufactured products for greater anti-skid protection. All one piece of material with open area in excess of 55% total area easy to flush clean, greater strength with less weight, in steel or aluminum.

Available at Globe Distributors in all principal cities. Consult yellow pages in your phone book under "stair treads."

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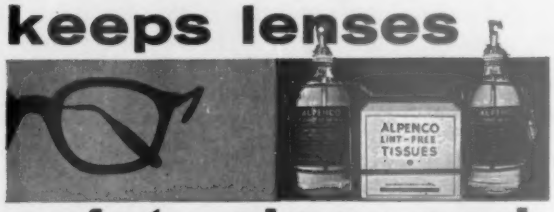
keeps lenses



safety clear and

free of fog!

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No. 10 unit illustrated $4.25 each. 6 or more $3.25 each

Write for Literature and Demonstration Test Sample.

Jobber Inquiries invited

One easy application in a "combination" liquid. Quickly cleans off dirt, grease and grime; prevents fogging in the hottest, steamiest areas. Heavy duty wall unit for plant use; 4 oz. squeeze spray bottles for individual use.

For Safety and Prescription Glasses • Faceshields • Hoods • Helmets • Inside of auto, truck, bus and train windshields • Windows • Mirrors • Refrigerated Showcases—glass, plastic and metal . . . All surfaces subject to steaming and fogging.

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KEEP THEM IN SIGHT...
Ready Made
EYE SAFETY SIGNS

EYE HAZARD
EYE PROTECTION MUST BE WORN IN THIS AREA

DANGER
DO NOT ENTER WITHOUT WEARING GOGGLES

CAUTION
WEAR GOGGLES WHEN USING THIS MACHINE

READY MADE SIGNS are made in accordance with American Standards Association Specifications for Industrial Accident Prevention.

• WRITE FOR COMPLETE CATALOG SIGNS FOR SAFETY

Ready Made SIGN COMPANY, INC.
Dept. NS-2, 115 WORTH STREET, NEW YORK 13, N. Y.

Circle Item No. 54—Reader Service Card

Fire Killed 11,300 in '59 NFPA Reports

Fires in the U.S.A. killed almost 950 people a month during 1959, the National Fire Protection Association announced.

About 30 per cent of the casualties were children. More than half of all the deaths occurred in home fires.

Property lost to fire cost more than $100,000,000 monthly.

According to preliminary estimates by the NFPA the United States slightly improved its fire death record last year. Total fatalities were 11,300, approximately 200 less than the figure for 1958.

Including the 1959 loss, however, means that fire has taken an estimated 116,000 lives in this country during the past 10 years, the NFPA pointed out.

The 1959 U.S. property loss total, an estimated $1,275,000,000, was also under the previous year's figure. The decline was approximately $3,800,000.

Included in the 1959 total are $1,055,000,000 worth of buildings and contents destroyed by fire. The balance of $220,000,000 covers aircraft, motor vehicle, forest and other nonbuilding fires. Corresponding for '58 were $1,056,308,000 and $222,500,000.

The worst loss of life fire in the U.S. during 1959 occurred in Meldrim, Ga., on June 28. Fire and explosion of LP-gas, following a freight train wreck, killed 23 adults and children picnicking in a nearby recreational area on the Ogeechee River.

Almost as many died when fire struck a state-operated boys' industrial school at Wrightsville, Ark, on March 5. Of the 68 boys locked in the dormitory for the night, 21 could not escape.

In terms of property loss, the country's worst disaster took place in Roseburg, Ore., on August 7, when fire touched off explosives in an unattended parked truck. The explosion and fires which followed destroyed more than $10,000,000 worth of property and killed 13 persons.

The second largest, according to NFPA records, was the Pentagon fire of July 2. Available estimates indicate damage cost at $6,690,000.

New List of Commercial Standards Available

A new list of commercial standards revised to July 1, 1959, is now available, according to Commodity Standards Division, Office of Technical Services, U. S. Department of Commerce.

The new index, Catalog No. 978 lists all commercial standards under 22 classifications including Apparel and Apparel Sizing; Chemicals; Electrical and Mechanical Equipment; Hardware; Instruments and Tools; Heating, Ventilating, and Refrigeration; Household and Hospital Supplies; Lumber and Wood Products; Millwork; Paper and Petroleum Products; Plastics; Plumbing Materials and Fixtures; Pipe and Fittings; Precious Metals; Rubber Products; Textiles; and Thermal Insulation Materials.

New standards in preparation, and existing standards being revised to reflect current industry practices, are shown in a supplemental list.

Commercial standards are voluntary standards adopted by industry to establish nationally recognized quality requirements, including methods of testing, rating, or grading. They also provide a means for certifying and labeling products that comply. They are developed at the request of the industry concerned to form a common basis of understanding among producers, distributors, and users of the products, and to provide a basis for fair competition.

Single copies of Catalog No. 978 are available without charge upon request to the Commodity Standards Division, U. S. Department of Commerce, Washington 25, D. C.

"Get set for a housekeeping lecture."

Circle Item No. 55—Reader Service Card

His Fault? Your Fault?

STOP SLIPS, FALLS with FERROX

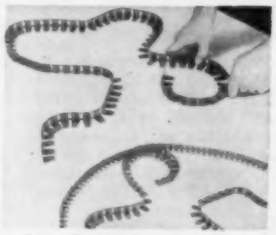
Millions of tiny, sharp, abrasive particles in Ferrox provide safe non-slip footing on all surfaces, wet or dry. Resists oil, chemicals, water and weather conditions. Adheres firmly to wood, concrete and metal. One gallon covers approximately 35 square feet. • **Write for Ferrox Bulletin.** AB 147

AMERICAN ABRASIVE METALS COMPANY
464 Coit Street, Irvington 11, New Jersey

You'll Make These Items FAST

GUARDS ENCLOSURES CONTAINERS

. . . with ACROFLEX, the PLIABLE, NOTCHED STEEL STRAPPING



Your maintenance department will find Acroflex as handy as nails and wire. You'll use it to fabricate guards on all dangerous points of moving machinery. Acroflex consists of a series of angular connected links in 8′ or 10′ lengths, with each link pierced to reduce drilling when used with wire mesh or expanded metal. Used for fastening metal to metal, metal to wood, or wood to wood at right angles in numerous shapes.

FREE ADDITIONAL DATA is contained in this folder. Write for your copy today. Ask for bulletin A59.

Territories available for qualified representatives.

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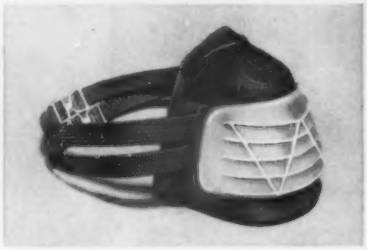
1901 No. Buffum St., Milwaukee, Wis.

Circle Item No. 56—Reader Service Card

NOW! WELSH MODERN RESPIRATORS

Weightless • Comfortable

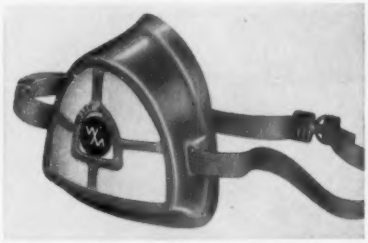
Never leave you breathless



MODEL 7100 RESPIRATOR
(PATENTS PENDING)

WELSH "AIR-RAIDER"

Bureau of Mines Approval 2175... the first all-plastic respirator. Longer filter life — greater visibility — weightless comfort... less inhalation and exhilation resistance... easily assembled — more durable — a new dimension in respirator comfort and performance.



MODEL 7200 RESPIRATOR

WELSH "BANTAM"

Low cost, comfortable — weighs just an ounce — can be used both for protection against nuisance dust and for intermittent non-toxic paint spraying. All plastic mask cushion fits facial contours. Entire unit of three simple parts is easily and quickly taken apart, washed and reassembled. Everything you need in a nuisance dust respirator at lowest possible cost.

WELSH — *Willingly Worn By Workers Everywhere*

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788 Mission St., San Francisco, Calif.

WELSH
MANUFACTURING COMPANY
9 MAGNOLIA STREET, PROVIDENCE, R. I.

Circle Item No. 57—Reader Service Card

Clear Plastic Curtains Prevent Loading Mishaps

"See-through" plastic curtains are doing a safety job for locker plants, truck lines, and many industrial operations. This partitioning enables workers handling manual or power-loading equipment to have a clear view of the path ahead. The curtains also find use in spraying work and as equipment covers.

Able to hold cold in and heat out, the vinyl sheets are flexible in varying temperatures. Removal for cleaning is not required. Cuts or tears will not "run" and can be electronically sealed.

The product is made with grommets, pockets for rod, or for attaching to the ceiling or floors. For heavy-duty partitioning this plastic is used with a 10-mil. thickness on two sides of low density core. The manufacturer is Plastixfilms, 1614 Fourth Avenue South, Minneapolis 4, Minn.

Use Iodine to Aid Lamp's Light Output

Lighting engineers have found a new use for iodine. They dust a deposit of concentrated iodine salts at the base of the filament of an incandescent light bulb.

The bulb then burns without blacking and delivers an undiminished amount of white light during its entire life. Ordinary incandescent bulbs, not using iodine, lose some of their light output because of the thin black deposit of burned tungsten.

The new lighting development, still in experimental form, was demonstrated at the recent annual conference of the Illuminating Engineering Society in San Francisco.

The experimental lamp is only ⅜ in. in diameter and is about the length of a lead pencil. Laboratory specimens develop 500 and 1,500 watts of light—up to 15 times more than used in an average household fixture. These models are effective for floodlighting outdoor areas, for TV, movie-making and store displays.

Smaller sizes are being developed for use on the wingtips of high-speed aircraft, for space travel research, and for airport landing strips.

According to the two Cleveland engineers who developed the lamp —E. G. Zubler and F. A. Mosby— the iodine removes burned tungsten from the glass sides of the bulb and redeposits it on the filament, where it is again "burned" for lighting purposes.

The filament renews itself until it eventually develops a weak spot in a thin filament wire and burns out. The life of an incandescent tungsten-filament lamp is approximately 1,000 hours.

THE POSITIVE LADDER SAFETY DEVICE LOCKS-IN-A-NOTCH

Prevents death and injuries from falling.

If climber starts to fall, device locks in a deep notch on carrier rail and limits fall to approximately 6 inches — distance between notches.

LOCKS AUTOMATICALLY and INSTANTLY—HOLDS SECURELY

Will catch and hold workman if he starts to fall, even if unconscious. Cannot slip on down ladder. Requires no attention from climber; he climbs in normal manner. Inexpensive. Easy to install; 3 men can clamp it to ordinary ladder in few hours. Clamps to any rung ladder, peg ladder, pole or framework. No welding or cutting. Notched rail hot-dipped galvanized. Entire equipment rust and corrosion proof. Can be kept free of ice by applying heat inside the carrier rail. In use approx. 11 years. Approved by Safety Engineers and Govt. Agencies throughout country. Patented. Manufactured only by

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BURBANK, CALIFORNIA

Circle Item No. 58—Reader Service Card

James I. Banash, NSC Past President, Dies

JAMES I. BANASH, internationally known authority on compressed gases and president of the National Safety Council, 1932-33, died January 10 in Los Angeles where he had lived since his retirement in 1951.

A graduate of Massachusetts Institute of Technology with a degree in electro-chemistry, Mr. Banash served as instructor at the Institute for a year. For 12 years he was with Underwriters' Laboratories in Chicago and became head of the casualty department. As consultant to Union Carbide Corporation and the International Acetylene Association he made important contributions to safety in the use of compressed gases. In 1950 he was awarded the Morehead Medal by the IAA.

James I. Banash

Mr. Banash was a member of the American Society of Mechanical Engineers, National Fire Protection Association and the International Association of Fire Chiefs. He was an honorary life member of the National Safety Council and the American Society of Safety Engineers.

In addition to serving the Council as president he was vice-president for finance for two years and for many years was a member of the board of directors.

Masonic services were held January 13 in Los Angeles. Surviving are the widow, Cecilia, and a brother, Robert.

VOICE OF THE READER

Let's have your views on current topics. You don't have to agree with us

PADUCAH, KY. Your editorial, "Are There Fashions in Dealing with People?" on page 4 of the December issue of NATIONAL SAFETY NEWS should shake some of the sheep who follow the pseudo-experts on human relations. A few months ago a corporation executive made the statement in a national magazine that it was time to forget the pap about human relations and concentrate on the business of getting out production. That statement has bothered me considerably.

The human relations of an organization may be maudlin, based on the concept of ordinary decency, or just plain lousy. They may generate the aroma of the rose or the odor of the sewer, but human relations will exist nonetheless. The poor deluded soul who advocates the elimination of human relations is advocating the elimination of people. To get production, efficiently, safely or otherwise, people must be dealt with and that's human relations.

Perhaps your editorial will help to get some feet back on the ground. Thanks for the effort.

—A. T. SECOR
Power Plant Superintendent
Tennessee Valley Authority
Shawnee Steam Plant

CM — mark of quality chain.

it's **BRANDED**
for lifetime identification

it's **SAFER**
because you can be sure of its grade (strength)

BBB — grade of coil chain made from low carbon steel.

HOW IT'S DONE — The mark is embossed onto, not stamped into, the link.

Available on Inswell, Proof Coil, BBB, High Test and the ½" and smaller sizes of Herc-Alloy chain.

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Circle Item No. 59—Reader Service Card

Circle Item No. 61—Reader Service Card

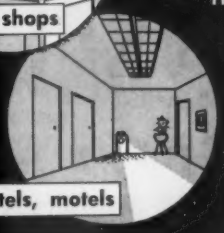
SPOTLIGHT SAFETY with LEWIS LIGHT

When lights go out, Lewis Light GOES ON!

Whenever storms, fire, floods cut off the power supply, your Lewis Light goes on automatically, fully illuminates areas where accidents can happen.

Lewis Light is easily portable, fastens anywhere for protection against accidents, personal injury . . . whatever can happen when lights fail.

Heavy-gauge, Plastisol-coated steel case; heavy-duty dry cell — approximately 12 hours of continuous light; GE sealed beam lamp; positive slide type switch.



Dealer Territories Available

LEWIS INSTRUMENTS, INC.
521 Locust Street, Lockport, N. Y.

NEW

filter respirator actually comfortable to wear

More efficient – costs less, too!

We don't say your workers won't know they're wearing our new Resp-R-Aid mask. But it's a fact the edges of this remarkable *urethane foam* mask are so soft and pliable they literally *caress* the natural contours of *any* face, closing all gaps with no discomfort. Yet the mask weighs hardly more than an ounce.

The entire mask is a filter. More than 25 square inches of micro-porous urethane. Up to 8 times the filtering area of most masks. Breathing is easy, natural, *comfortable* because thousands of interconnected cells trap foreign particles, but let air pass freely. Resp-R-Aid lasts longer, too; you wash it out in seconds.

Yet for all its comfort and efficient protection against mists, sprays and nuisance dusts, Resp-R-Aid costs only $1.95. Replacement filters available. Watchemoket Optical Company, Inc., 232 West Exchange St., Providence 3, Rhode Island. Throughout Canada: Levitt-Safety Limited.

WATCHEMOKET
Resp-R-Aid®

And Watchemoket Eye-Savers, Safety Spectacles, Cover Goggles, Eye Shields, Welding Goggles.

Wire from Washington

—From page 14

3. We must continue to urge the adoption of uniform driving rules to apply from coast to coast . . . to eliminate dangerous confusion and to plug loopholes contributing to the accident toll.

4. We must spend more on research. Only by research have we made substantial progress against epidemics and mass killers in the public health field, and here we are dealing with one of the major public health problems of our time.

For all of these objectives but the third (uniform driving rules), Mr. Roberts saw the need for federal action. But he also warned: "It may be that we shall have to go further than that in enacting federal legislation." He asked for public support for his legislative program.

The Congressman warned that the necessary measures to cope with traffic accidents are "going to cost us money." Such a program also "may mean a certain curtailment of some of our freedom of action. It may mean that some of those who enjoy driving may have to give up driving. It may mean sending some worn-out and unsafe cars to the junk pile.

"Driving is a privilege and not a right. No one who endangers the life and property of his neighbor has a right to drive."

Aviation Safety. The Aviation Subcommittee of the Senate Committee on Interstate and Foreign Commerce held hearings on the 1959 civil aviation safety record.

Senator A. S. Mike Monroney, Subcommittee chairman, said that "last year's accident record was one of the worst in recent years," and called for "vigilance beginning with the construction of the airframe, motors, and equipment, and continuing to the final movement of that aircraft on the airways."

The Civil Aeronautics Board testified that "the 1959 accident record, while a matter for grave concern and positive action on the part of the aviation community, is not a matter for public alarm." In 1959, airline passengers grew by more than 18 per cent to about 58 million passengers, traveling more than 37½ billion passenger-miles.

Scheduled airlines had 66 acci-

dents, 9 of which involved fatalities, totalling 257 passengers and 37 crew members—a passenger-fatality rate of 0.68 for every 100 million passenger-miles. This compares with a rate of 0.38 in 1958 and 0.20 in 1957 and is higher than any recent rate since 1952.

General aviation (including all civil aviation except airline operations) increased 4 per cent over 1958 to 66,500 planes; and 40 per cent of all accidents in general aviation involved adverse weather. There were 778 fatalities in 1959 in general aviation compared with 717 in 1958. The rate rose from 3.3 to 3.5 per 100,000 flying hours.

CAB found no single pattern in such accidents, but noted that all but one of 10 typical aircraft introduced since World War II were involved in fatal accidents in their first two years.

CAB's answer to the 1959 accident record was "that renewed and increased attention must be given to the fundamentals of safety—to careful training, careful maintenance, and careful operations in general," and that "the day-by-day details of airline operations require renewed attention." This agency asked for special emphasis on personnel training and procedures, a high priority for an effective simulator program, enlargement of the flight recorder program begun in 1957, and an enlarged staff of safety investigators.

The federal aviation administrator described his agency's first year of operation and expressed "great concern" with 1959's accident trend. He reported 50 per cent of accidents studied by FAA can be attributed to error or failure on the part of the flight crew, about 25 per cent to faulty maintenance by ground per-

"Boy, do I dread these double features!"

Circle Item No. 63—Reader Service Card

CLIP FILE

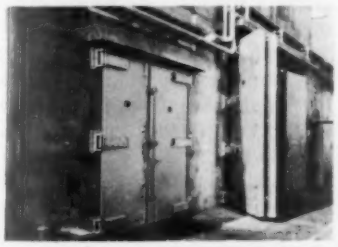
IAC

News of Interest in the Field of Noise Control

Sounding Board

"Acoustic Doors" Gain Wide Use in Industry and for Research

The need to control noise by means of "Quiet" rooms and machinery enclosures has led to a demand for quality acoustic doors to meet the requirements of industrial and commercial firms, research laboratories, studios, etc. Industrial Acoustics Company, Inc., leader in industrial noise control, fabricates a complete line of "NOISE-LOCK" Door and "matched" Frame Assemblies acoustically engineered to meet the most rigid requirements.



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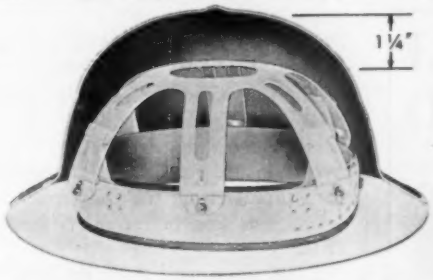

SAFETY + COMFORT

New headgear on Jackson fiber glass and aluminum safety hats and caps sets a fixed 1¼-inch safety margin between top of head and hat shell, yet permits ample adjustment for good fit and comfort.

Cradle, *Headband* and four *T-Straps*, all of polyethylene, form a smooth, shock absorbing, easy to clean assembly. While the cradle, fastened directly to the hat shell, provides the fixed safety margin, the connecting T-straps enable the headband to be easily raised, lowered and even tilted by pushbuttons and tabs.

It is equally simple to adjust the headband with its attached, all-around sweatband to clearly marked hat sizes 6¾ through 7½".

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Sold Everywhere by Better Welding Supply and Safety Products Distributors

Add to the safety of your present Jackson hats and caps (fiber glass and aluminum) by installing this new, all-plastic headgear, part 83. Simply pull up on the metal hangers that are riveted to the shell, slip on the slotted cradle straps, then push hangers down. Once installed, the all-plastic headgear will prove very durable. However . . .

if only the new soft-lined leatherette sweatband needs replacing, you only need part 84, above.

To replace part 84, pull it loose from the T-straps by hand and fasten the new part by snapping the studs of the T-straps into the desired holes. No tools needed.

Jackson fiber glass and aluminum safety hats and caps pass all known government and industry requirements *however adjusted.*

sonnel, approximately 18 per cent to failure of some part of the aircraft during operation, and less than 8 per cent to severe turbulence.

Crew failures can best be counteracted, said FAA, by "improved training, improved qualification requirements, and better cockpit discipline by all crew members." Improper maintenance would be attacked through "regulation changes, increased surveillance of maintenance practices and procedures, and a vigorous enforcement program".

These and other programs will continue FAA's efforts in the past year to deal with what it called "disturbing indifference or laxness" in the areas of pilot and cockpit discipline and aircraft maintenance.

For the future, the federal aviation administrator foresaw the need to recodify "the entire regulatory structure" to cure "one of the basic defects of the present system" which he described as "divided authority."

FAA put its safety inspectors on a round-the-clock schedule in a concentrated safety inspection of all scheduled air carrier training programs and flight operations. The plan is designed to improve air carrier and public safety, and will include all the necessary inspections "to insure that the highest level of safety is being maintained on a day-to-day status."

This inspection program caused a sharp dispute between the FAA and the Air Pilots Association, which charged "petty ridiculous harassment of flight crews." The federal aviation administrator replied that during 1959 its inspectors rode with flight crews only 2/10 of 1 per cent of all flying time; of this, he remarked: "Frankly, I have serious doubts that this inspection program is adequate to meet the needs of public safety."

At the same time, FAA moved to simplify inspection procedures for small aircraft owners and operators of planes used in experimental flying. FAA also promulgated a safety rule requiring most commercial airliners to be equipped —in two years—with airborne weather radar, enabling detection of severe weather conditions.

An informal public hearing was scheduled on a proposed change in FAA's medical examination procedures for student and private pilots.

The proposed change would re-establish a pre-World War II policy of limiting such medical examinations to designated medical examiners. According to FAA, "this would insure maximum uniformity in administering the physical examinations and better safety standards."

FAA continued with its controversial program of prescribing age limits for pilots. It scheduled an informal hearing on a proposed amendment of regulations to establish a maximum age limit of 55 years for pilots in command, or as second in command of a flight crew of three or more pilots, on turbo-jet-powered planes, unless the pilot held such rating prior to his 55th birthday or prior to the changed regulation's effective date.

FAA directed its inspectors to monitor speed control practices, especially of jet planes, in view of its statement that jetliners are being flown faster than is safe "with a frequency which is alarming."

A new technical standard order was proposed by FAA for safety belts, which would alleviate the requirement of the six-month retesting period for synthetic materials and would require permanently marking date of manufacture on the belt.

FAA also issued in final form its regulations controlling use of alcoholic beverages in flight (See "Wire," September 1959).

The Flight Safety Foundation has completed preliminary work in a study designed to discover patterns in aircraft accidents during approaches and landings.

Motor Transportation. The Interstate Commerce Commission announced it would conduct an investigation of practices of motor carriers in permitting drivers to drive when fatigued and for periods beyond the maximum driving time authorized by Commission regulations.

The ICC also proposed a reappraisal and re-examination of its existing rules and regulations relating to the transportation of explosives and other dangerous articles.

This would determine what revisions or amendments can be made under existing authority, or if need be, "to seek legislation with a view to the removal or lessening of the hazards attendant in the transportation of these commodities and the establishment of additional safeguards for their transportation." Both proposals developed from investigations of specific motor-carrier accidents.

The National Bureau of Fire Underwriters recommended a stiffening of regulations governing the transportation of explosives and called for an increasing recognition by manufacturers, shippers, and carriers of such products of their responsibility for revealing to governmental authorities the contents of such transport.

Marine Safety. In connection with the international conference to be held in London beginning May 17, 1960, for the revision of the 1948 International Convention for Safety of Life at Sea, the U. S. Coast Guard released the recommendations submitted by its Ship Construction Committee. Several highlights are:

(1) No proposals should be advanced which would decrease the current standards of safety for passenger ships now under or to be

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registered under the United States flag.

(2) Criteria for passenger-ship compartmentation and stability shall be based directly on the survival of severe collision damage.

(3) New ships should be required to be fitted with necessary tankage to permit ballasting to be done in a "clean ballast" system.

(4) The use of flammable material should be minimized in the structure and outfit of a ship.

(5) Greater protection should be required for emergency source of electrical power, and an increase in the present number of powered bilge pumps is needed.

The Coast Guard terminated approvals for "Fire Indicating and Alarm Systems" and for "Supervised Fire Patrol Systems," which had been issued previously under now-superseded specification requirements. The Coast Guard also authorized continued use of all such items of equipment presently in use "so long as such equipment is in good and serviceable condition."

Home Safety. The food additives amendment to the Food, Drug, and Cosmetic Act goes into effect on March 6, 1960, (See "Wire," October 1958), subject to the authority of the commissioner of food and drugs to extend such date for 12 months on a product-by-product basis on a finding there is "no undue risk to the public health."

The commissioner issued a policy statement prescribing conditions under which such extensions will be considered for specific additives. He placed a complete bar on extensions involving any additives in connection with which "appropriate tests show the production of cancer in test animals at any dosage level."

The commissioner stated "there are food additives in common use that are not generally recognized as safe and for which tolerances must be established by regulation" before they may be used in foods.

The secretary of health, education and welfare announced his support of a change to the pending color additives amendment to the Food, Drug, and Cosmetics Act, so a "safe" rating would be denied to any color additive found "to induce cancer in man or animal" unless such chemical or drug leaves no residue in food for human beings.

The Case of the Lanyard that broke the Fall, and the Man!

The lanyard was strong enough, the anchorage was solid—but the man in the case wasn't so solid. He was seriously—perhaps fatally—injured, because his lanyard had strength alone, but not the resilience needed to s-l-o-w the fall and minimize the shock!

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Color Plus
—From page 23

is frequently the first method chosen. It is argued that the pipes must be painted in any case, so why not use a significant color which would identify their contents? It may be decided that the entire length of pipe should be painted this distinguishing color, or, with an eye to economy, that only the fittings or bands at intervals should be painted.

Methods of use. A color system may be used in two ways. In the first, color is used to identify the contents only, with no attempt to associate a color with a particular material or hazard. In the second method, color is used not only to identify the contents but also to provide some degree of warning as to the general nature of the material.

Color, of course, adds visibility to the identification system. However, there are only a few primary colors to handle a multitude of liquids and gases. Every plant using color alone has run up against this problem. In most cases they have used supplementary color bands to distinguish materials. This inevitably leads to a large collection of color combinations and requires the development of explanatory charts.

An additional disadvantage in using color alone is the possibility of fading or changing color under exposure conditions and accumulation of dirt. This makes for mistakes in identification.

Lettering. The second basic system uses lettering alone to spell out the name of the material in the piping. It has several advantages. In the first place, a supply of different colors is not needed by the maintenance department; lettering can be placed on the standard plant color scheme.

Identification by lettering can be highly accurate but the system is somewhat deficient from the standpoint of visibility and recognition. It rarely gives warning of the hazardous nature of materials, and the plant depends on the maintenance men to appreciate the nature of the material and set up safeguards. This drawback can be overcome only by proper training of maintenance men and by making available a reference chart which relates the name of the material to its hazardous properties.

Other basic systems are used for identification of piping, usually to serve some minor purpose. For instance, banding of pipe has been proposed to indicate whether it is a primary main or a secondary main. In some cases, banding indicates the degree of hazard to be expected from the contents.

Combinations. The most satisfactory compromise seems to be in the use of coloring and lettering together to give both immediate warning of the general nature of the contents and accurate identification of the material. This is the basic method now recommended by the American Standards Association in its *Scheme for the Identification of Piping Systems, A13.1-1956.* The ASA

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Junkin
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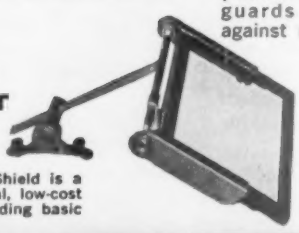

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makes it clear that it requires positive identification of piping by letter legend, and that use of color to give flash recognition of the type of material contained is only supplementary to the use of lettering. Many industries are using this combined scheme, and apparently it satisfies most needs.

GM experience. Interest in the development of piping identification codes in General Motors began independently in its various divisions. The corporation is made up of 38 operating divisions and 121 plants in the United States and Canada. When each of these divisions set up its own system, the difference in approach became noticeable. Men transferred from one plant to another had difficulty in becoming adjusted to the local system.

Agitation by plant engineers of the corporation in 1949 led to a review of the systems then in use and the selection of one system to be used as a corporation standard. This system made use of color alone for identification and depended on additional banding with one or two different colors to secure exact identification for each liquid.

After a few years of use it became apparent that certain conflicts existing in the system could lead to misinterpretation, particularly in an emergency. For instance, while red was used for identification of fire-fighting fluids, it was also used as a base color to identify oleum spirits and ammonia, each with its assigned banding color. A review of the color coding systems at that time revealed its inadequacies, and a new approach was developed.

It was decided that color would be used only as a means of identifying the general nature of the material, and that certain colors would warn of a particular hazard. Primary identification of piping contents, however, was to be on the basis of a printed legend on the pipe in conjunction with the color. With this as a start, the entire system was revised and the present standard established in 1953.

The men who developed this code included fire marshals, chemists, plant engineers, industrial hygienists, and safety directors of the corporation divisions. Each area of activity was fully covered.

The new General Motors standard was based on easy recognition of possible hazard from the material being transported in the piping, together with accurate definition of the material by wording. It features:

1. Establishment of a basic color for immediate identification of the class of fluid.

2. Identification of the exact nature of the material by lettering.

3. Identification of direction of flow of flammable or otherwise hazardous liquids. (This requirement is optional for other fluids.)

4. Requirement that numbers be used to indicate pressure, temperature, and voltage to further identify the presence of hazard.

Colors and their significance:

Red: For fire protection systems,

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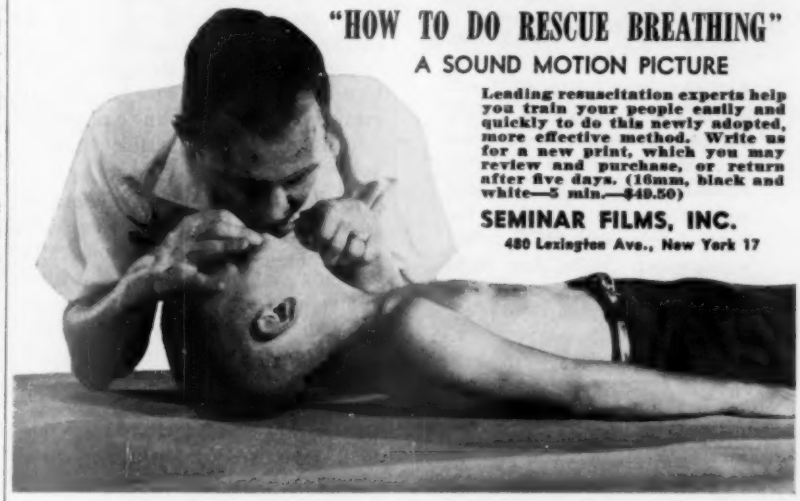

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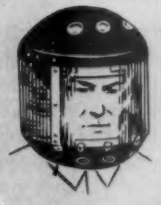

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such as water sprinkler lines, foam and carbon dioxide (when used for fire protection only).

Orange: For nonflammable hazardous materials. These include acids and alkalis, process waters such as those carrying plating chemicals and industrial wastes, toxic materials, compressed gases, and oxygen.

Yellow: For explosive and flammable materials, such as liquid or gaseous fuels, oils, solvents, gasoline, hydrogen, and acetylene.

Green: For water not hazardous to personnel, such as drinking water, service water (hot and cold) and steam condensate.

Blue: To designate air at any pressure; pressure must be indicated in pounds per square inch.

Aluminum: To indicate steam at any pressure, with pressure notation in psi.

Black: To indicate electric conduit; voltage to be indicated.

Red was selected for fire protection systems principally as a matter of custom. Fire-fighting devices such as extinguishers and sprinkler lines, have been painted red for many years. It was felt the custom should be continued.

It is recognized that a conflict exists somewhere along the line of color identification in the use of red as a warning color on small containers for flammable liquids. The state of Michigan and many other states require that gasoline tanks be painted red for transporting small quantities of gasoline.

It is possible that red may have to be reserved for identification of highly flammable material in the future, although the strength of custom is such that it might be safer to retain red for fire-fighting equipment and use the equally visible warning yellow.

Yellow is used in the General Motors code because of its high visibility and identification with warning systems. Most of our divisions have carried yellow down through the piping systems to the processing tanks carrying flammable liquids. At the same time the divisions have made sure the contents of the tanks and their hazards are well advertised by legends in large letters on the sides and by insistence

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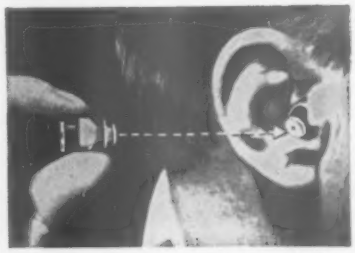

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on *No Smoking* within a stipulated distance of the tank.

It was recognized that dangerous nonflammable materials were also handled in piping and that these should not be handled in the same way as the flammable materials. *Orange* was therefore selected as an identifying color for these materials. It was believed that orange, being in the yellow area of the spectrum, would tend to give the same warning effect as yellow, and that maintenance men would consider lines so identified as carrying hazardous materials.

The other colors are somewhat standard and were picked with some thought of the association between the color and the material identified. *Green,* for instance, is commonly associated with water and blue with the atmosphere.

The ASA system for identification of piping features in general the establishment of lettering as the primary identification of contents and permits the use of color as supplementary information. Use of *red* and *yellow* is identical with the General Motors standard, but the other colors recommended appear to be applied to a much too broad classification to be of much use. *Green,* for instance, is recommended for identification of "safe" materials. We believe this classification can be broken down into certain classifications for greater convenience.

Bright blue is used in the ASA standard for identification of "protective materials," described as "materials which are piped through plants for the express purpose of being available to prevent or minimize the dangerous materials mentioned above." It is pointed out that this classification does not include liquids used for fire protection.

So far, we have been unable to determine, at least in our operations, just where this color might be applied. It would appear that the primary color blue is used up for identification of a material which is certainly highly specialized in application.

Other proposals for identification of piping have been appearing in recent years. One of these, described in *Industrial Wastes* for September-October 1957, is a standard piping marking adopted by the state of

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HUNTINGTON, INDIANA
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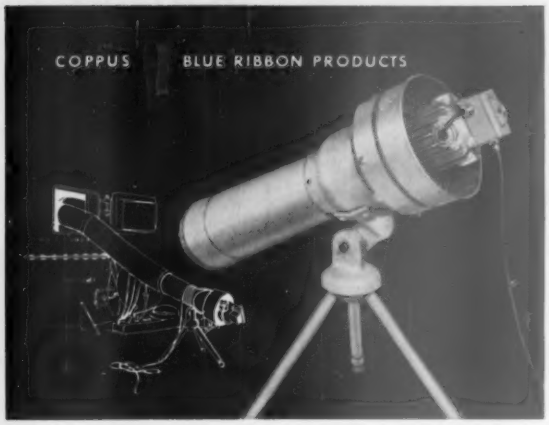

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California. This standard for identification is based on the ASA color code and lettering system, but makes use of additional banding to supply further information on whether the line is a primary main or some subordinate pipe line.

Additional banding is used to provide information on the degree of hazard involved. In the first case, a primary main is identified by the use of three 1-in. bands placed to the left of the stenciled legend. An intermediate or secondary main is identified by placing two 1-in. bands in the same location, and a branch main or equipment service line is identified with a single 1-in. band, again to the left of the stenciled legend.

The additional banding called for to identify the degree of hazard is placed to the right of the stenciled legend and may be made up of from one to three separate bands ½-in. wide. Colors may be all the same and identical with the color coding established by ASA, or they may differ entirely from the basic color coding. Two different colors may be used, depending on the application.

The Federation of Sewage and Industrial Wastes Association has established a Paint Manual Committee which is also considering the development of color codes for piping to be applied to water, industrial waste, and sewage treatment systems. Apparently this subcommittee is basing its thinking on the ASA identification system and is now reviewing other standards established by state authorities or industry.

Certain other special uses have been recognized, such as the color coding system for fluid line identification set up as an *Air Force-Navy Aeronautical Design Standard,* AND 10375. Color code in this standard is also supplementary to a printed legend identifying the contents of the line precisely. Color used in this system appears to have little relationship to hazard identification and does not coincide with color selection based on the ASA standard.

With the many identification systems now under consideration and the appearance of many different systems in industry and governmental activities, a uniform approach to the solution of the problem would be desirable. The standards systems developed concurrently by General

Circle Item No. 79—Reader Service Card

Motors and the American Standards Association provide an excellent start toward simplification and uniformity. While there are defects in both systems, they illustrate the points that only a few basic principles are necessary in developing a system that can be used nationally —even internationally.

There appears to be little reason for using a complicated identification system, even for industries in widely different fields. Special requirements can always be superimposed on the basic requirements noted above and as used in the General Motors and ASA systems.

Future activity in this area should be directed toward modifying the ASA standard to overcome those features which interfere with its fullest acceptance, in extending the ASA activity into related fields of fluid container identification, and in the aggressive promotion of the use of the ASA standard by those sponsoring its development.

Recommendations. I would suggest:

1. That the American Standards Association review its *Scheme for the Identification of Piping Systems, A13.1-1956,* to make it more readily acceptable to a wider group of industry and municipalities. For this purpose the sectional committee which prepared the standard should secure broader representation from heavy manufacturing and the water, industrial waste, and sewage treatment fields.

2. That the whole field of identification of fluids in containers be studied by the ASA, taking into consideration information and needs expressed by both manufacturers and users, with the objective of establishing acceptable national standard systems. This would include identification of fluids in tanks, processing vats, and portable containers, including tank trucks and tank cars, drums, and cans.

3. As a corollary activity, and actually falling under the heading of identification of fluids in containers, that the American Standards Association review and revise its standard on *Identification of Compressed Gas Cylinders.* A review of this standard is outside the scope of this discussion, but in its use as a means for containing and transporting a fluid, the compressed gas container should definitely be included in any activity toward securing standardized identification of these containers.

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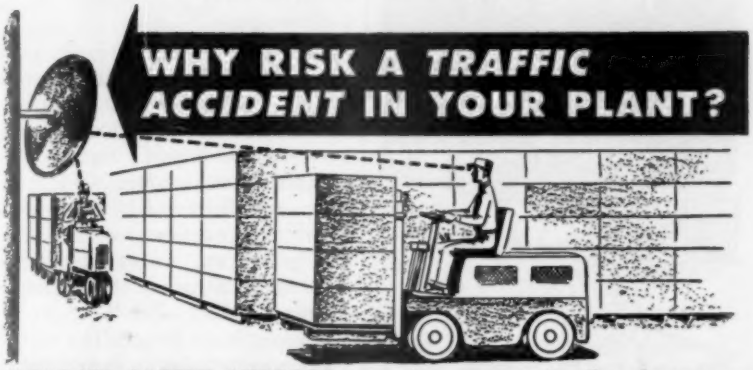

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KLEAR-VU SAFETY MIRRORS are the answer to the dangerous blind corner problem in your plant or warehouse. They are also adaptable for outdoor use in your parking lot, loading dock area or other points where traffic converges.

Mounted at cross aisle intersections, entrances and exits at a height of 8 to 10 feet, Klear-Vu Safety Mirrors clearly reflect oncoming intersection traffic to both power truck operators and pedestrians.

Style	No.	Dimensions
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Circular Convex Glass	180	18" dia.
Circular Convex Glass	240	24" dia.
Circular Convex Glass	300M.R.	30" dia.
Circular Convex Glass	360M.R.	36" dia.
Flat Glass Rectangular	918	9"x18"
Flat Glass Rectangular	1640	16"x24"

M.R. indicates metal rim.

Available in either convex or flat glass styles, the mirrors are easily installed and quickly adjustable to any desired angle.

Special sizes made to order. Polished flat metal mirrors available.

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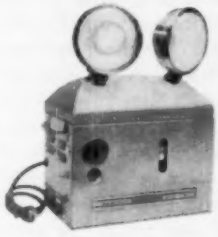

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ECONOMY ENGINEERING
4518 West Lake Street, Chicago 24, Illinois

Circle Item No. 82—Reader Service Card

Part of the Contract

—From page 27

is wall-to-wall carpeting in good condition. Since we can't carpet all floors or find codes or standards on this subject, we check floors for unevenness and tripping hazards. We eliminate threshholds in inside doorways and floor tracks for sliding doors and partitions.

Slip-resistant waxes should be used to cut the risk of slipping on an uncovered floor. But kitchen and bathroom floors shouldn't be waxed. Falls against sinks, stoves, or a bath fixture can be serious.

Concrete floors ought to receive a wood-float finish unless a smooth finish is needed. A wood-float finish is desirable in entrance ways and on porch slabs.

Doors should swing into rooms and not stand open. Doors that look as though they open into another room but open on a stairway are booby traps. And a door that swings on to a stairway—instead of away from it—is a hazard from either direction.

Door hardware is important. Privacy locks should open from the inside without a key. Knobs of glass or china can shatter. And examine the backs of doors to make certain that coat hooks or other hardware sticking out are above eye level.

Stairs are common scenes of accidents. Avoid slippery and waxed surfaces. The risers should be the same height—six or seven inches—with an inch-wide lip on each step. Riser height plus tread, not counting lip, should add up to 17 or 18 inches.

Flights of three steps or more are less likely to cause trouble than one or two steps, because a longer flight is more evident. Two or three short flights with roomy landings between are safer than a single long flight.

Winding stairs are dangerous and usually are forbidden. Stairs should have handrails and sufficient light controlled by three-way switches at top and bottom.

Storage facilities. Closets and cabinets have hazards. Falling objects can strike persons in skimpy or big walk-in closets, if either space isn't well lighted. Any closet large enough to enter should have its own light where it can't be shattered.

Circle Item No. 83—Reader Service Card

Guard Against
injury
loss of life
confusion
SUDDEN
BLACKOUTS
destruction
panic

be prepared with

Big Beam
AUTOMATIC EMERGENCY LIGHTS

Storage Battery Always Fully Charged—Built-in Charger
Just plug in a BIG BEAM Emergency Light and rest assured that when regular lights fail, your plant or building will be protected automatically with hours of bright, SAFE illumination. Variety of models available.

HAND LAMPS • FLARES
Wide range of hand lamps and flares also available, including Explosion-Proof Hand Lantern, Model 287EX for use in Hazardous Locations, Class 1, Group D. Approved by Underwriters' Laboratories.

Write for Bulletin on Complete Big Beam Line 7025

U-C-LITE MFG. CO. 1027 W. Hubbard St. Chicago 22, Ill.
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Metal
Standard
Signs
PREVENT COSTLY ACCIDENTS
A complete line of indoor or outdoor signs for every need. Fully Approved. Available in two gauges of steel. Write for illustrated catalog and prices.

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Circle Item No. 84—Reader Service Card

No shelf should be more than 72 in. from the floor. This removes temptation to use makeshift stepladders to get at out-of-reach shelves. Cabinet doors that swing out over lavatories and benches are undesirable.

Outside walkways around buildings should be free of jutting hazards, quick changes in elevation, or breaks. Above the walk area, there should be no projecting objects such as electric meters or open casement windows.

If there are differences in yard or ground heights, slopes shouldn't be steeper than 30 degrees. A walled cut with handrail at the top is preferable to a steep slope.

When the nature of occupancy isn't known by the designing agency, hazards often occur. Several times, the using agency has indicated that an area is to be used other than intended. For instance, we're told an area is to serve as a paint shop, when it's really to be used for large-scale paint and oil storage.

Lack of exact information on occupancy can result in over- and under-design. In over-design money can be spent needlessly. In under-design cost shortages might develop, requiring expensive correction or the leaving of a permanent hazard.

Our construction forces are responsible for fire and accident prevention in the finished product. Sometimes building methods may produce hazards, so field construction personnel must make proper corrections as work goes on.

Booby traps that creep in during construction usually occur when plumbing, heating, ventilating, lighting, and similar work is linked with the structure itself:

A steam line crosses the head room at the foot of the stairs or partly blocks a doorway. Ventilation ducts under lighting fixtures cut off light and make maintenance difficult. Electrical outlets are installed in impractical locations or create fire hazards because of the type of occupancy.

Occasionally, major changes have to be made. Once, a pumping plant building at a gasoline loading facility was designed with a mechanical air exhaust system to remove fumes and protect against fume ignition. Excavated material combined with natural terrain to create a rim of high ground around the building. Study showed that gasoline spillage fumes from the loading dock would drift into the pumping plant depression. The ventilating system would then draw the fumes into the building.

Here, the ventilating system worked against the design. The possibility of spillage in the loading dock area far exceeded possibility of leakage in the pumping plant.

The ventilating system was reversed. A stack was placed above the roof line for an air intake. The system was installed with a slightly pressurized interior to prevent infiltration of fumes from the outside.

Incidentally, designs for machines, materials, and facilities are adapted to their operators. Reliance isn't placed on individual safety consciousness where it's possible to provide protection against human error.

Circle Item No. 85—Reader Service Card

• Reduce traffic accidents at blind corners inside and outside your plant —also at loading platforms.

Traffic Safety Mirrors are available in Convex or Flat glass. All have a Yellow and Black Safety Stripe Border.

Round Convex Mirror Sizes
13" • 18" • 26" • 36"
Flat Rectangle Mirror Sizes
6"x14" 14"x18"
other special sizes to order
(Available in Unbreakable Metal Mirrors)

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STRETCHER

Strong, comfortable, conveniently-stored REEVES canvas stretchers can be quickly moved to the spot in any emergency. They're ideal for the use of industrial plants, hospitals, first aid and rescue squads, or police departments. The sick or injured may be moved with care, and in many instances, are spared from more serious injury. All REEVES stretchers are equipped with sturdy webbed belts for safety in movement.

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Circle Item No. 86—Reader Service Card

THE KENNEDY "VICTORY" CAP
designed for GREATER SAFETY
for all industrial Jobs!

Better protection for all the hair all the time because the full, wide, snood-type back of the Kennedy "Victory" Cap permits complete coverage. Easy to put on. Adjustible to all head sizes. 11 styles to choose from.

Manufacturers and distributors of a complete line of safety clothing and equipment.

Write for information regarding your needs.

K-I KENNEDY-INGALLS, INC.
3735 NORTH 35TH ST., MILWAUKEE 16, WISCONSIN

Circle Item No. 91—Reader Service Card

No more drudgery for me in cleaning grease-caked floors

A flip of the switch re-sharpens brushes automatically!

His boss is happy too . . .

and should be. *Now an Industrial Dry-Scrubber, Finnell's 84XR at left, does the job in about one-tenth the man-hour time required to hand-scrape the floors!* And of course the machine is far more thorough, and spares maintenance men the back-breaking effort of manual methods. Equipped with two powerful scarifying brushes, the *84XR* digs through and quickly loosens even the most stubborn coatings of dirt, oil, grease, and shavings. Universal couplings enable the brushes to clean recessed areas that rigid coupling brushes would pass over and miss.

Reversible motor keeps wires sharp. *A flip of the switch* reverses the rotation of the brushes and re-sharpens them automatically . . . *while working!* Eliminates the need for frequent changing of brushes by hand in order to maintain a sharp cutting edge. Reversal of brush rotation also helps keep the brushes functioning efficiently by ejecting sticky substances that would otherwise clog and slow up the cleaning process. Total brush spread of the *84XR* is 22 inches. Low, compact design permits cleaning right up to and beneath machinery — areas where deposits are heaviest. Interchangeable rings and brushes adapt the machine to wet-scrubbing, polishing, and steel-wooling.

Clean floors allow industrial trucks to move swiftly, surely and, according to actual tests, with *half the pull* it takes to move loads over dirty floors. In addition, clean floors aid safety underfoot and contribute to worker productivity. So it pays to keep floors clean—especially with a labor-saving *84XR!* (The Vacuum Cleaner at extreme left, *Finnell's 10C,* features a 1½ hp, 115v AC-DC By-Pass Motor. Tank capacity: *Wet,* 12 gallons...*Dry,* 1¼ bushels.)

For demonstration, consultation, or literature, phone or write nearest *Finnell Branch* or Finnell System, Inc.. 2202 East Street, Elkhart, Indiana. Branch Offices in all principal cities of the United States and Canada.

FINNELL SYSTEM, INC.

Originators of Power Scrubbing and Polishing Machines

Everything FINNELL for Floor Care

BRANCHES IN ALL PRINCIPAL CITIES

New SAFETY EQUIPMENT

Product announcements in this section are reviewed for compliance with the advertising policy of the NATIONAL SAFETY NEWS. Inclusion should not, however, be construed as endorsement or approval by the National Safety Council.

Shock Absorber

The Unolyn shock absorber for safety lanyards prevents a damaging jolt resulting from a fall. Safety men can be sure their high workers are using the shock absorber by splicing it directly into the belt. The shock absorber also is made separately with a loop splice or snap at the ends to attach to any safety lanyard. The absorber will stretch to full length, depending on impact.

It is made of ⅝-in. undrawn nylon chemically treated for impact safety, is 10-in. long when coiled, and will stretch to 50 in. There is no rebound, even though the shock absorber is stretched to its full length.

Rose Mfg. Co., 2700 W. Barberry Place, Denver, Colo. (Item 301)

Breathe Life Trainer

The Breathe Life trainer is meant for practicing mouth-to-mouth artificial respiration techniques.

This trainer lets the instructor or trainee simulate steps of rescue breathing with the study victim. He can learn: how much to inflate a victim's lungs; what difficulties he might encounter, such as a blocked air passageway, stomach distension, improper jaw position; and also can learn to correct these problems.

The victim wears the trainer plastic simulated lung in chest position. Leading to the lung is an air tube with plastic piece inserted into the victim's and the rescuer's mouth. Niether person is in contact with the other. Yet the trainee can inflate the simulated lung and hear the victim's exhalation.

The trainer reportedly can simulate every condition where a person is not breathing due to drowning, asphyxiation, electric shock, choking, or suffocation.

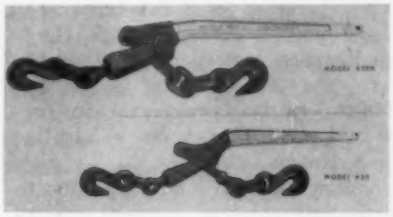
Medical Supply Co., 1027 W. State St., Rockford, Illinois (Item 302)

Armored Chain

Armored chain serves as a heavy-duty bundling chain and is suitable for industrial applications where high chain yield points are required and crushing loads are encountered.

The chain is made from low carbon steel and is non-kinking, will not crush, and has the same working load limit as high-carbon, high-test chain. High temperatures don't affect this chain, and the non-crush property makes it useful for slab and billet operations. Continuous lengths or assemblies with master links at each end are available.

American Chain & Cable Co., Inc., 929 Connecticut Ave., Bridgeport 2, Conn. (Item 303)



Load Binders

Strength and safety factors of drop-forged metal parts are in these six binder models. Hot drop forging and heat treating of each part before assembly offers safety in load transport and manual operation.

Canton Mfg. Co., 2459 - 13th St., N. E. Canton 5, Ohio (Item 304)

Safety Footwear

Three oxford and two boot models are available in safety shoes. These styles can be worn at work and off-the-job.

The oxford line includes a dirty-buck, an embossed 4-eyelet, and a casual style (illustrated). The boots include an 8-in. sportsman type nok-a-bout boot (illustrated) and a 10-in. black plain toe boot. The five styles feature the Anchor Flange steel box toe.

Hy-Test Safety Shoe Div., International Shoe Co., 1509 Washington Ave., St. Louis, Mo. (Item 305)

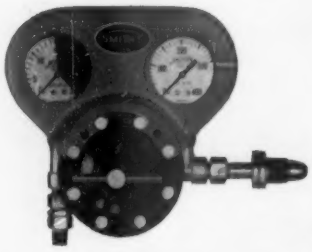
Emergency Oxygen Unit

The Lif-O-Gen emergency oxygen unit provides seven gallons of pure gaseous oxygen. The unit is 11 in. high, 3 in. in diameter, and weighs 20 ounces. Oxygen can be obtained instantly by pressing a push button on top of the container.

A disposable face mask, included with the unit, can be attached to the outlet. Oxygen flow can be produced periodically or continuously. When empty, the container is disposable.

These lightweight units can be stored in strategic locations throughout factories and buildings.

Linde Co., Div. Union Carbide Corp., 420 Lexington Ave., Room 2840, New York 17, N. Y. (Item 306)



Welding Regulator

A regulator with safety features for the welding industry is the Saf-T-Pak unit.

A regulator Hard-Hat encloses exposed gauges, protecting them from exterior abuse.

The regulator Flo-trol on the down-stream side prevents reverse flow and mixture of gases, eliminating one of the explosive dangers.

A safety inlet connector fits the inlet connection to the regulator, encouraging repair of damaged connections without special tools.

The regulator is available for oxygen, acetylene and LP gases.

Smith Welding Equip. Corp., 2633 Fourth St., S. E., Minneapolis 14, Minn. (Item 307)

Industrial Gloves

This industrial glove combines protection with sensitivity, allowing bare-handed efficiency. The form-fitting latex-based gloves afford workers sure-handed control, protection, freedom and flexibility to move instruments and precision products.

Soft-woven cotton fabric is bound to the inside of the seamless glove, eliminating perspiration discomfort without reducing flexibility and sensitivity. This lining also makes the gloves easy to put on and take off.

While protecting the hands, the gloves also protect the product, shielding it from body oil which can tarnish and rust.

Other features include skidproof tread and long gauntlet cuff, which can be used as a forearm protector or turned up to catch drip and splatter.

The gloves are made in two styles, living and utility, and range in sizes from small to extra large.

International Latex Corp., Empire State Bldg., New York 1, N. Y. (Item 308)

Traffic Marker

These traffic markers may be used for line marking in industrial plants, parking lots, stock rooms, loading platforms.

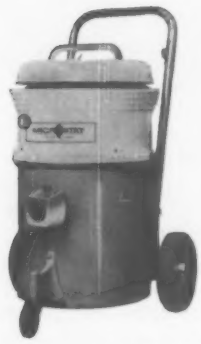
No brushes or sprays are necessary. The paint feeds from the tank by gravity and is applied by the all-metal applicator available in 1 to 6 in. widths. Tank capacities range from 3 to 6 gals., and 10 in. rubber-tired ball-bearing wheels allow easy movement. The applicator is on the outside, so lines may be made close to piled material or other obstructions.

Albert W. Pendergast Safety Equip. Co., Tulip & Longshore Sts., Philadelphia 35, Pa. (Item 309)

Washfountain

The stainless steel foot-controlled Duo-Washfountain may now be supplied with a back panel. This panel (illustrated) extends the width of the bowl interior and is the height of the sprayhead.

Bradley Washfountain Co., 2203 W. Michigan St., Milwaukee 1, Wis. (Item 310)



Vacuum Cleaner

The Microstat portable vacuum cleaner is a safeguard to health in hospitals, battling drug-resistant bacteria and in plants, offices, factories, and schools where germs are spread by people working closely together.

The machine is equipped with an impaction filter that makes exhaust air bacteria-free. The filter is composed of thousands of minute strands of glass fibers which trap bacteria and block exits.

The Microstat has a high rate of airflow. Small and compact, the unit has three wheels. The changeover for wet pick-up is rapid and simple. Gently diffused exhaust at a 30-degree angle above horizontal prevents the stirring up of germ-laden dust on walls, floors and ledges.

The cleaner has two porous filters, making an area of more than 800 sq. in. that collects dust and dirt. A muffler quiets the machine.

The Kent Co., Rome, N. Y. (Item 311)

Fire Extinguishing Waste Receptable

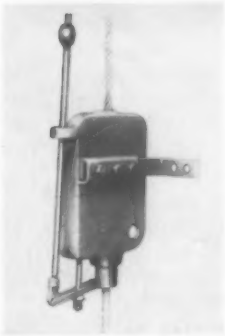
The Flame-Tamer waste receptacle uses smoke from fire as an extinguishing agent.

When fire starts in this receptacle, smoke is diverted across the opening and back toward the fire, preventing oxygen from reaching the flame. Without oxygen, the fire is put out.

Open at all times, this receptacle operates without chemicals or moving parts. No maintenance is required.

Four attractive models are available: the 30-gal. industrial unit, the 15-gal. commercial unit, a wastebasket unit and the hospital bedside unit.

Rock Royal Corp., 120 S. LaSalle St., Chicago 3, Ill. (Item 313)



Staging-Lift Safety Device

Blocstop is an independent safety device for staging and personnel lifts.

When the unit is used with regular rope falls, it isn't necessary to tie off the rope at the time the scaffold has reached the desired height. The operator can use the device as a hand brake to descend.

For conventional hand-operated or powered winches, these safety devices can be attached to the winch cable or used with a supplemental safety cable. With separate safety cable, the device provides additional safety in protecting the operator during failure of the hoisting mechanism or hoist cable.

The operator holds open the grip jaws by pushing or pulling a hand lever to descend. To ascend, the unit is automatic. In event of mechanical failure of hoist while going up, the Blocstops immediately grab the cables the moment upward motion is stopped.

Should a failure occur in lowering, the operator releases pressure on the control lever, and the staging is held by the self-energizing grip jaws.

This apparatus is made for $\frac{5}{16}$ in., $\frac{3}{8}$ in. and $\frac{1}{2}$ in. wire ropes.

Griphoist, Inc., 744 Harrison St., San Francisco 7, Calif. (Item 312)

Impact Tester

A power-operated, remote-controlled impact tester provides safety, speed and convenience when performing Izod, Charpy and Tension-Impact tests for metals. The tester meets requirements of ASTM Method E-23 for these functions.

This machine has an automatic electric safety clutch brake, which stops the pendulum after one complete swing. It also has a motorized pendulum return and remote controls.

After the pendulum has been stopped, the electric motor with gear head assembly automatically raises the pendulum hammer to its latched position. The machine is then ready for the next test.

The control panel for operating the pendulum hammer can be located any distance from the machine for safety or other reasons.

When testing materials which might shatter and throw fragments, the impact tester can be used with assurance of safety. It can also test radioactive or other dangerous materials. The operator does not have to lift the pendulum after each test, eliminating possible injury. The operator cannot be struck by the pendulum during a test or in trying to reposition it.

Testing Machines, Inc., 72 Jericho Turnpike, Mineola, L. I., N. Y. (Item 314)

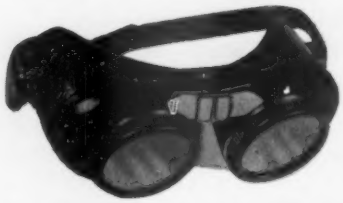
Salt Spreader

The Greenmaster all-molded, plastic salt spreader is guaranteed rust- and corrosionproof. It requires no maintenance, and is made of unbreakable, rigid polyethylene.

The Greenmaster may be used in winter for spreading salt, and for landscaping purposes in spring and summer.

The hopper is green, and holds more than 25 lbs. An aluminum control bar runs along the handle, and a fingertip control starts or shuts off flow. At the left rear of the hopper is a calibrated non-slip, flow-control adjustment, which may be set to release certain amounts of fertilizer, seed, weed killer or salt.

Federal Tool Corp., 3600 W. Pratt Blvd., Chicago 45, Ill. (Item 315)



Cover Goggles

Seesall Cover-Spec goggles are for welders and use angled lenses. With slight tilt of the head, the wearer has a clear view of the work area. Blind-spots are eliminated, making the goggles useful for bifocal wearers.

Features include: comfortable fit over larger spectacles, indirect ventilation, flexible leather protective nose guard, and lightweight construction.

The angled lens design helps eliminate neck and shoulder fatigue.

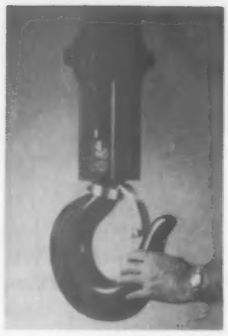
Glendale Optical Co., 600 W. Merrick St., Valley Stream, N. Y. (Item 316)

Wall Ash Tray

A steel ash tray, permanently fastened to walls in washrooms and filled with white sand or commercial oil absorbents encourages smokers to "park" lighted cigarettes or "put out" ready-to-discard cigarettes.

A screen stored in a clip beneath the tray sifts cigarettes without removing the tray from the wall. Model No. 4 Park or Put Out Butt-Snuffer is finished in white oven baked-on enamel. The ash tray is 8 in. long, 6¾ in. high, and 5¼ in. wide.

Safety Floor Products, 3038 W. 84th Place, Chicago 52, Ill. (Item 317)



Safety Latches

Safety latches for converting standard hoist hooks to safety hooks include eight new sizes for larger hoist hooks.

Latches are now available for heavy industry, foundry, material handling and similar hoist applications in hook sizes through 10-tons. Sizes of more than 10-ton capacity are made to order.

These safety latches are quickly fitted on any hook, by using hand tools.

The safety device for preventing accidental dropping and detaching of loads has two major parts: a clamp-on collar and a spring-loaded safety latch which fits into the hook opening. The clamp-on collar conforms to any hook-shank shape. Lugs on both sides of the latch permit operation of the device without putting fingers into hook openings.

The Harrington Co., Gravers Road, Plymouth Meeting, Pa. (Item 318)

Platform Ladder

This platform ladder features an aluminum safety platform with abrasive-type surface that reduces possibilities of workers slipping on wet, greasy, or soiled surfaces.

The platform is made of knurled aluminum sections. Forming of the section and knurling or roughing of the aluminum safety surface can be done in one operation.

Louisville Ladder Co., 1101 W. Oak St., Louisville 10, Kentucky (Item 319)

Fire Alarm System

AN Underwriters' Laboratories' approved non-electrical fire alarm system is operated as a single-station alarm without need for wires or batteries. Each alarm in the Vanguard system operates independently. Installation can be accomplished without expensive wiring or building alterations.

Interstate Engineering Corp., 522 E. Vermont, Anaheim, Calif. (Item 320)

Sight Savers

Silicone-treated Sight Saver tissues for eyeglass cleaning stations include paper tissues for glass eyewear and rayon tissues for plastic or glass eyewear.

No. 65 paper tissue has an embossed surface that gives cleaning and polishing action and grips easily. No. 66 rayon tissue is guaranteed not to scratch plastic eyewear because dirt particles are absorbed into the loosely-woven tissue surface.

The products are packaged in packets of 400 tissues. Both tissues, soaked in silicones, fit the regular plunger-type wall dispenser.

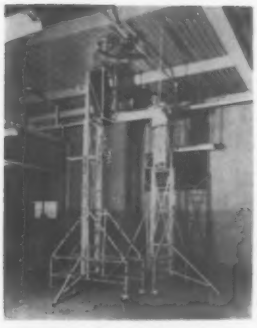
Dow Corning Corp., Midland, Mich. (Item 321)

Rescue Breathing Equipment

AMBU rescue breathing equipment consists of a hand-operated resuscitator and fast-operated suction pump in a plastic carrying case. The unit is lightweight, sturdy and easily operated.

It can be used quickly without electricity or compressed gases. This equipment consists of a face mask, self-inflating bag and non-rebreathing valve. The resuscitator delivers adequate air with the first squeeze of the bag. The foot-operated suction pump delivers periodic, partial vacuum for clearing of the airway.

Air Shields, Inc., County Line Road, Hatboro, Pa. (Item 322)



Telescoping Scaffolds

Telescoping aluminum scaffolds on wheels that fold down to roll through doorways and are adjustable for reaching heights up to 31 ft. facilitate construction of plant facilities.

These scaffolds can be used for fastening motors to frames, conveyors to ceilings and for installing conduits, piping, ducts and supports for equipment. Lightweight and rapidly assembled by one man, each scaffold is 29 in. wide.

Up-Right Scaffolds, 1013 Pardee, Berkeley, Calif. (Item 323)

Paint Striper

Mark-A-Zone hand-operated stripers mark aisles, loading zones, storage areas, etc. Paint can be color-coded to indicate caution and danger zones. The devices help direct internal, as well as external, plant traffic and can indicate routes for raw materials.

Stripers range from 1 to 6-qt. capacity, and will paint up to 1,500 ft. of stripe per hour on short lines with a heavy ribbon of paint. The unit is available in widths from 2 to 5-in. stripe, starts and stops quickly, is easily cleaned, uses free-flowing non-clogging gravity feed, and operates at normal walking speeds.

S. B. Beugler Co., 3667 Tracy St., Los Angeles 36, Calif. (Item 324)

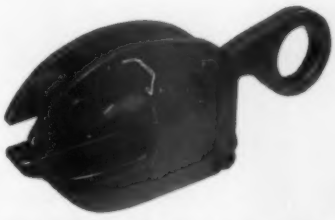
Resuscitating Tubes

Resuscitating tubes make the mouth-to-mouth breathing technique more effective by providing the rescuer with a mouthpiece. This overcomes reluctance to direct oral contact with the victim, and a breathing tube also keeps open the victim's air passageway.

Patterned after oropharyngeal airways described in medical literature on artificial respiration, the tubes can be carried in pocket or handbag and are available in sizes for adults and for children.

These tubes are made of polyethylene plastic, resistant to most chemicals used in cold sterilization. While polyethylene plastics are temperature limited, they may be sterilized in boiling water or autoclaved to 250 F.

The Mira Corp., 3656 N. Pasadena Ave., Los Angeles 31, Calif. (Item 325)



Metal Clamp

Model NM is a non-marring clamp that lifts stainless steel, copper, aluminum and other polished metals. It has smooth ground jaws with no teeth, and grips by a finger-adjustable wedge on one side of the jaw and a five-to-one gripping ratio on the opposite side. In obtaining a grip to prevent slipping, the clamp has a safety factor of three to one.

The clamp may be locked on the load or unlocked by manual manipulation of the wedge-screw adjustment. The NM is made in weight-lift sizes ranging from ½ to 12 tons.

J. C. Renfroe & Sons, Inc., 1926 Spearing Ave., Jacksonville, Fla. (Item 326)

Safety Shoe

A lightweight pigskin safety shoe, reportedly saving a pound or more per pair over other safety oxfords, has steel toe protection with sport shoe styling.

The foundation for the steel box has a channel in which the edges of the box ride to prevent spreading under impact and to prevent the box from cutting into the lightweight sole.

Uppers are of brushed pigskin tanned with leather protector. Easily cleaned, they resist water, water-borne stains, acids, alkalis, and conform to atomic-energy cleaning specifications.

The oil-resistant neoprene sole is flexible, buoyant, and offers durable wear. They are not intended for heavy-duty work, but for conditions where oxfords with steel toe protection are required.

Haus of Krause, Safety Shoe Div., Rockford, Mich. (Item 327)

Industrial Gloves

Cyralon industrial gloves are made of poly-vinyl chloride. These gloves are resistant to most acids, alkalies, oils, greases, alcohol, lye, detergents, peroxide, cleaning fluids, metal washing and preparatory solutions.

The gloves insulate against hot and cold liquids and are easily put on and removed. They don't stick to hands and are non-allergenic. They have a non-slip outside surface, are lightweight and flexible, and are available in three sizes. All have an 11-in. gauntlet.

Skyline Mfg. Co., 6150 Kester, P. O. Box 185, Van Nuys, Calif. (Item 328)

Drum Filling Cover

A plastic drum filling cover collects and holds overflow, avoiding spillage.

The lightweight corrosionproof cover, available in 15, 30 and 55-gal. sizes, will fit standard fill lines on steel, fiber and polyethylene drums. Designed to help eliminate corrosion, to save maintenance dollars, protect shipping drums and prevent accidents from chemicals, the cover is molded of unbreakable, translucent natural polyethylene with built-in handles and molded pouring lip. The unit also has an expandable fill pipe opening.

Delaware Barrel & Drum Co., Inc., P. O. Box 1648-A, Wilmington, Del. (Item 329)

Sound Protector

The 'Hush Sound' protector is an ear muff that permits normal conversation while protecting against harmful noise.

Designed to U. S. Air Force and Navy standards, it removes hearing hazard caused by high-level shriek, high-frequency whistle, high-speed air equipment and jet engines. The protector is devised to eliminate accidents and production lags caused by noise-exposure fatigue.

Lightweight and comfortable, this equipment has ear cups of reinforced plastic shell for impact resistance. The shell is filled with polyurethane foam and uses vinyl for head fit. The headpiece is chrome spring steel with vinyl head cushion.

Industrial Div., International Latex Corp., Empire State Bldg., New York 1, N. Y. (Item 330)

Floor Polish

Legsure, resin-type water emulsion floor polish, has received the York Research Corporation's Seal of Approval. Tests included: leveling and spreading properties; length of drying time; susceptibility to tackiness; resistance to water spotting, aging and extremes of heat and cold.

The polish is slip- and scuff-resistant for resilient floors, and produces gloss with or without buffing.

Walter G. Legge Co., Inc., 101 Park Ave., New York 17, N. Y. (Item 331)

Disposable Protective Suit

A disposable plastic suit protects workers in industrial operations involving exposure to chemicals, water and excess dust or dirt.

This lightweight plastic apparel is resistant to most acids, alkalis and fire, and is waterproof and unaffected by oil or grease. The yellow polyvinyl chloride slipover jacket and trousers fit over work clothing. Elastic tape at neck, wrists and ankles insures tight fit for protection.

Safety First Supply Co., 421 Magee St., Pittsburgh 19, Pa. (Item 332)

NEWS ITEMS

National Foam System, Inc.

This West Chester, Pa., manufacturer of fire-fighting foam liquids and foam devices, has announced the appointment of Vandenpeereboom, South America, as the direct distributor in Mexico. Distribution of the company's products in Mexico had previously been handled through the company's export branch. The company is located in Mexico City.

National Foam also announced that H. C. R. Folmer, Fort Lauderdale, Fla., has been appointed the Florida distributor.

* * * *

Paul Chatterton

Fibre-Metal Products Co.

Paul Chatterton has joined the Sales Department of Fibre-Metal Pacific, distributor for Fibre-Metal products, Glendale optical products, Beldon welding cable, and other allied lines.

Mr. Chatterton will cover Washington, Oregon and Idaho, calling on distributors of welding and safety equipment. He has been active in this field for 30 years, including the American Welding Society and the American Society of Safety Engineers.

* * * *

National Chemsearch Corp.

National Disinfectant Co., Dallas, Tex., has announced changing of the corporate name of the organization to National Chemsearch Corp. to provide a clearer picture of the firm.

The company has expanded its product line to more than 150 industrial chemicals for maintenance purposes.

The firm plans to open an office on the West Coast and build a new building in Dallas.

* * * *

Malcolm Fischer

Overly Mfg. Co.

This Greensburg, Pa., manufacturer has established a department to handle sales of UL-labeled fire safety products for public buildings.

Malcolm Fischer is the new manager of the department. He has been in the safety and insurance business for more than 25 years and has been with Overly since 1953.

Roy Pyne

Hy-Test Safety Shoe Div. International Shoe Co.

Roy Pyne has been appointed sales representative of this firm in the New England states. Mr. Pyne will be headquartered in Newington, Conn. and will carry the complete line of Hy-Test safety shoes. He has been with International Shoe Company since 1955, and recently worked in the Northeast Region of the company.

* * * *

Oxy-Catalyst, Inc.

This Devon, Pa., maker of catalytic exhaust purifiers, has appointed J. H. McLoughlin as Northeast U. S. representative for their line of exhaust purifiers for industrial engines.

Mr. McLoughlin has represented Oxy-Catalyst for several years in upper New York state. The appointment adds the states of Vermont, New Hampshire and Maine to his territory.

* * * *

Wayne E. Ault

"Automatic" Sprinkler Corp.

Wayne E. Ault has been promoted to manger of engineering by this Youngstown, Ohio, manufacturer of Engineered fire protection systems.

Mr. Ault has been with the company since 1945, and has served as assistant to the manager, and as chief engineer and manager of the Technical Division.

* * * *

James Mayberry

The Granet Corp.

James Mayberry has been appointed representative for this manufacturer of fabric work gloves in the Detroit, Pittsburgh and Buffalo area.

Mr. Mayberry will work in distributor relations, sales and service. He was formerly with the Dictaphone Corp.

Circle Item No. 89—Reader Service Card

GETS-A-LITE GUARD and GUIDE

Quickly and Easily Installed by Anyone—No Tools Needed!

- **Simply slip GETS-A-LITE GUARD AND GUIDE over the fixture, as illustrated.**
- **Made of indestructible spring steel wire. Nothing to break, get out of order or replace. Will last indefinitely.**
- **Once installed, GETS-A-LITE GUARD AND GUIDE is NEVER removed.**
- **Nothing to unlock, fuss with or lock, when changing lamps.**
- **GETS-A-LITE GUARD AND GUIDE actually steers lamp into socket enabling maintenance man to change lamp in 10 seconds!**
- **Available for 40 watt and 100 watt fluorescent lamps.**

GETS-A-LITE CO.—Dept. NSN-260
3865 N. Milwaukee Ave., Chicago 41, Ill.

REDUCE All Saw HAZARDS!

with BRETT-GUARD
***NEW!* Visual Safety Tool**

A versatile combination visual circular saw guard and saw fixture, uniting the ultimate in precision designed tools for efficient guiding with the maximum safety guarding, has recently been introduced and marketed by the Brett-Guard Corp. Simple to set-up . . . economical for both large and small jobs . . . so safe that it's being used in vocational schools for the blind . . . made of transparent PLEXIGLAS that lets you see what you saw . . . fully adjustable for all those impossible-to-guard cuts . . . fitting all circular table-type saws for 6" to 22" blades . . . here is truly the last word in both safety and efficiency!

FREE 30 DAY TRIAL! Send blade diameter, and make of your saw. Full details on request.

16MM DEMONSTRATION SOUND FILM! Available free loan.

BRETT-GUARD CORP.
Dept. NSN, Englewood, N. J.

Circle Item No. 90—Reader Service Card

Calendar Contest For November

Mrs. Albert Rehder (Individual Member) of Hawarden, Iowa, won the $100 first prize in the National Safety Council's "Safety Saying" contest with this line:

Talk's not ample; example talks more!

The contest appears monthly on the back page of the Council's calendar. The theme for the November contest was "Be Safe at Home."

Second prize of $50 went to Mrs. Richard F. Smith, General Electric Co., Richland, Wash. Her entry was:

Most mishaps have mind-lapse at core!

Miss Annis Ridings (Individual Member) of Guntown, Miss., won third prize of $25 for this line:

Don't explode a door open— EXPLORE!

The 30 winners of $5 prizes are:

William H. Adams, The Mead Corp., Kingsport, Tenn.

Mrs. J. Slaughter Nelson (Individual Member), Long Beach, Calif.

Miss Velma Wilkinson-Davis (Individual Member), Scio, Ore.

Mrs. Mabel Cole, Standard Oil Co. (Ind.), Palmyra, Ill.

Miss Joyce Megginson (Individual Member), Fort Lauderdale, Fla.

Miss Bettye Collette, Board of Education, Los Angeles.

Mrs. Will Spain (Individual Member), Nashville, Tenn.

Edward J. Dean, Great Lakes Carbon, St. Louis, Mo.

Mrs. Bernice Copeland (Individual Member), Long Beach, Calif.

Mrs. C. A. Wallace (Individual Member), West Allis, Wis.

Miss Myrtle A. Shafer, Custodis Construction Co., Denver, Colo.

Joe K. Bower, U.S. Post Office, San Francisco, Calif.

Mrs. C. L. McCain, Board of Education, Homewood, Ala.

Mrs. Emil Wohlenhaus (Individual Member), Mora, Minn.

Mrs. Alice L. Cain, The Texas Pipe Line Co., Electra, Tex.

Miss Mabel Seyfried, Lehigh Portland Cement Co., Catasauqua, Pa.

Miss Anna V. Nevin, Department of Public Works, Lowell, Mass.

Clyde Campbell, E. I. duPont de Nemours & Co., Inc., Victoria, Tex.

Roger W. Dana, Kimberly-Clark Corp., Neenah, Wis.

Miss Genevieve Taylor, American Legion Auxiliary, Portland, Ore.

Mrs. Wm. J. Fontaine (Individual Member), Inglewood, Calif.

Joseph Cameron, Worcester County Electric Co., Worcester, Mass.

Mrs. Earl Boyle, Buckeye Steel Castings Co., Columbus, Ohio.

J. D. Grace, Nordberg Mfg. Co., Milwaukee, Wis.

Dwight W. Swearingen (Individual Member), LaHarpe, Kan.

Jess E. Strader, Board of Education, Bath, S. D.

Mrs. Grace Martin (Individual Member), Pawtucket, R. I.

John A. Stewart (Individual Member), Cleveland Heights, Ohio.

Ellis Schein, David Schein Co., Reading, Pa.

John F. Grower, Alpha Portland Cement Co., Saugerties, N. Y.

Safety Wheel Blocks are light, strong, tough because they're STEEL CASTINGS. Hold heavy trucks, trailers with ease. Prevent accidents caused by vehicle moving away from dock while loading, unloading. Easy to handle, store. Practically indestructible. Stocked for Immediate Delivery

$10.95 ea. 1-5 Blocks
$9.95 ea. 6 or more
F.O.B. Hammond, Ind.

Order now for immediate delivery! Write for illustrated catalog.

CALUMET STEEL CASTINGS CORP.
1638 SUMMER STREET • HAMMOND, INDIANA

Circle Item No. 92—Reader Service Card

TRADE PUBLICATIONS

These trade publications will keep you up-to-the-minute on new developments in safety equipment and health products. All catalogs are free, and will be sent without obligation. Just circle publication number on the Reader Service Postcard.

Fire-Extinguishing Equipment

Ansul Chemical Co., Marinette, Wis., has issued a catalog on its 1960 line of fire equipment. Listed are hand portable extinguishers, stationary fire equipment, piped systems and large-capacity mobile equipment such as fire jeeps and trucks.

Hand portable extinguishers shown cover requirements for Class A, B and C and combustible metal fires. Among new portable units are the Monitor extinguisher and the Sentry "Energized" series.

For more details circle No. 400 on enclosed return postal card.

Noise Control Requirements

A questionnaire developed by Industrial Acoustics Co., Inc., 341 Jackson Ave., N. Y., helps solve industrial noise problems by using sound isolation rooms and enclosures. Companies can determine structural requirements for solution of a specific noise problem through this form.

For more details circle No. 401 on enclosed return postal card.

Work Gloves For Industry

A line of coated fabric work gloves for industrial hand protection is described in Bulletin No. 1315-1, available from Mine Safety Appliances Co., 201 North Braddock Ave., Pittsburgh 8, Pa. The four-page folder illustrates basic types of glove materials available, including neoprene, natural rubber, and vinyl plastic in standard, flexible, and super-flexible types.

Glove linings listed include jersey, canton flannel, and interlock fabric. The bulletin has a chart evaluating chemical resistance of glove materials to various acids, caustics, ketones, hydrocarbons, and solvents.

For more details circle No. 402 on enclosed return postal card.

New Film on Saw-Guarding

The Brett-Guard Corp. of Englewood, N. J., has released a 15-minute 61 mm sound black-and-white film titled "A New Approach to Saw Guarding." It demonstrates the firm's plastic see-thru safety saw guard for circular table saws.

An instructor shows how the operator can see and saw and still have protection in such dangerous operations as mitering, cross cutting, compound mitering, ripping. The film also shows how the guard gives protection in such "unguardable operations" as rabbeting, tenoning, dadoing, feathering, template cutting, drop sawing, plowing and tonguing.

The film is available for loan free from Brett-Guard Corp.

For more details circle No. 403 on enclosed return postal card.

Acoustical Fire Guard

A 16mm sound motion picture, introducing a new concept in fire-safe acoustical tile ceilings for commercial, institutional and industrial buildings, has been produced by the Armstrong Cork Co.

Available on a free-loan basis, the film explains how to achieve rated fire protection for steel supporting members or metal decks by using Armstrong acoustical fire guard prefabricated tile ceiling. This ceiling sound-conditions and serves as a fire barrier, requiring no additional fire protection above the ceiling.

The film also reports Underwriters' Laboratories tests conducted on the ceiling to determine fire-resistant capabilities. Running 18 minutes, it may be obtained from Armstrong Cork Co., Department I. S., Lancaster, Pa.

For more details circle No. 404 on enclosed return postal card.

Selectalog

To help engineers use A-MP products and to up-date them on developments in compression-type terminals, splices and connectors, AMP Inc., Harrisburg, Pa., has prepared Selectalog brochure. It summarizes each line of A-MP products, listing the catalog number for detailed information.

For more details circle No. 405 on enclosed return postal card.

Trucks for Plant and Warehouse

A folder describes Palmer-Shile Co.'s line of trucks for plants and warehouses. Illustrated are: underslung trailer for drums, barrels and heavy units; heavy-duty die truck for moving dies, jigs, fixtures, forgings or stampings in factories or production shops; heavy-duty trailers; book trucks where drying and curing sheets or parts must be separated; and utilities racks on wheels.

Other units include a stock trailer with chart-holder for speeding up stock selection and movement in grocery or other warehousing by hand or in train with overhead towline; four-wheel steering trailer for narrow aisles; trailer with ribbed deck for moving grocery stock without pallets; a dolly trailer with automatic controls integrated with a towveyor for moving engines in plant manufacture; and a turntable tilt truck which turns in its own radius. Palmer-Shile Co., 12639 Mansfield, Detroit 27, Mich.

For more details circle No. 406 on enclosed return postal card.

Measuring Radioactivity

Catalog I-60 is a 36-page display of radiation detection and measuring instruments for research, industrial and medical applications. These instruments are made by Nuclear Measurements Corp., 2460 North Arlington, Indianapolis 18, Ind.

Included are proportional counters, scalers, pulse height analyzers, universal shields, monitoring systems, portable survey meters, counting ratemeters, well counters, and medical laboratory instruments. Data shows how each instrument can be used independently or as part of an integrated system to measure radioactivity.

For more details circle No. 407 on enclosed return postal card.

Refracolor High-Pressure Boiler Water Gages

New Data Unit No. 360 provides technical data on Jerguson Refracolor Gages. These are for high-pressure installations and show water level as green, while the steam area shows red.

This design requires minimum maintenance. Jerguson Gage and Valve Co., 80 Adams St., Burlington, Mass.

For more details circle No. 408 on enclosed return postal card.

Conductor Systems

Bulletin No. 2016-D describes Cleveland Tramrail Safpowbar conductor systems for providing safe electrification of durable overhead materials-handling equipment. Cleveland Tramrail Div., The Cleveland Crane and Engineering Co., Wickliffe, Ohio.

For more details circle No. 409 on enclosed return postal card.

Welding Helmets

Bulletin 35-H offers data on the company's line of glass fiber welding helmets. Described are nylon lift front and stationary plate retainers and ratchet headgear, plus information on replacement plates for these helmets. Sellstrom Manufacturing Co., Palatine, Ill.

For more details circle No. 410 on enclosed return postal card.

Government Specification Catalog

Magic Chemical Co., 121 Crescent St., Brockton 2, Mass., has published a new catalog edition. It lists 1,000 official U. S. Government specifications covering adhesives, sealants, paints, cleaning compounds and chemical compounds.

This catalog will help purchasing and procurement officials of companies handling government contracts or needing products conforming to government specifications.

This publication is divided into eight sections according to federal class numbers and has a numerical index. Specifications are listed by government number, title and Magic Chemical Co. product number.

For more details circle No. 411 on enclosed return postal card.

Electronic Solution Controller

A four-page bulletin describing their electronic solution controller is available from Electro Mechanism Corp., 7301 Ridgeway Ave., Skokie, Ill.

Material discusses automatic control of concentration of caustic acidic or aqueous solutions in continuous or batch-type metal washing equipment, plating processes, chemical process systems, textile bath equipment, and other applications. Also described are system components: sensing electrode, magnetic amplifier, pump assembly, wash tank and holding tank.

For more details circle No. 412 on enclosed return postal card.

Hoists

Hoist products for overhead handling of loads for ¼-ton through 60 tons are described in Catalog R available from The Harrington Co., Plymouth Meeting, Pa.

Covering more than 20 kinds of cranes, hoists, specialty and accessory items in the Peerless line, the 12-page illustrated publication contains equipment for overhead handling requirements met in the

metalworking, machinery, electrical manufacturing, chemical, utility, and other industries.

The safety latch—Harrington's product for quickly converting standard hooks to safety hooks with hand tools—is discussed, along with trip hooks, shock springs, monorail hangers, and special sheaves.

For more details circle No. 413 on enclosed return postal card.

Welding Screens

A five-page circular, issued by Singer Glove Manufacturing Co., 860 West Weed St., Chicago 22, features a portable welding screen that encloses the job on four sides.

Curtain materials include duck, neoprene-coated glass fiber and Johns-Manville aluminized asbestos. Slip-joint construction enables quick assembly. The screen is available in single and triple panel versions.

The circular also shows curtains and drapes, asbestos blankets and heavy woolen blankets.

For more details circle No. 414 on enclosed return postal card.

Dust Topics

This pamphlet suggests methods of collecting and measuring aerosols and dusts from ducts and stacks. Instructions are provided on standard methods for evaluating dust concentrations in work areas. Gelman Instrument Co., Chelsea, Mich.

For more details circle No. 415 on enclosed return postal card.

Recipe for Kitchen Safety

Fire safety for commercial kitchen ranges, deep fat friers, hoods, and ducts is presented in a four-page illustrated brochure, I-26, available from Walter Kidde and Co., Inc., 675 Main St., Belleville, N. J.

The publication features automatic CO_2 fire-extinguishing systems.

For more details circle No. 416 on enclosed return postal card.

Chart for Filter Cloths

Wheelabrator Corp., 1304 South Byrkit St., Mishawaka, Ind., offers a comparison chart as guide in selection of filter cloths used in dust and fume collectors. Cotton, nylon, Orlon, Dacron, and silicone-treated glass are classified according to temperature limits; strength; resistance to acid, alkali, and abrasion; and relative cost per bag.

For more details circle No. 417 on enclosed return postal card.

Ice and Snow Removal

A report on Ice-Foe is available from its manufacturer, Walton-March, 1592 Deerfield Road, Highland Park, Ill. Prepared by Homer A. Hamm, Ph.D., research consultant, the report analyzes a sample of this product to determine how well it works in melting ice and snow.

The evaluation includes findings on Ice-Foe's rate of melting, effectiveness under varied temperatures, solubility, rust-inhibiting ingredients, and effect on concrete.

For more details circle No. 418 on enclosed return postal card.

Grocery Warehousing

Special Application Analysis No. 152 on Grocery Warehousing equipment and techniques is now available from Lewis-Shepard Products, Inc., 125 Walnut St., Watertown 72, Mass.

The analysis covers grocery warehouse sizes, aisle widths, types of racks and pallets used in them. Order-selection methods are discussed along with different types of materials handling equipment. Equipment described ranges from high-stacking narrow-aisle rider-type trucks to tow tractors, trailers and dragline carts.

For more details circle No. 419 on enclosed return postal card.

Floor Mats

A brochure, discussing floor mats, tile and stair treads produced from a new compound, is offered by the American Mat Corp., 2415 Adams St., Toledo 2, Ohio. Nyracord compound consists of rubber reinforced with nylon synthetic fiber.

The product resists abuse and heavy foot traffic, is resilient, slip-resistant, and easy to clean.

For more details circle No. 420 on enclosed return postal card.

Safe-File Record Housing

The Pentagon Building fire and the need for record protection is discussed in illustrated four-page folder SC 827, published by Remington Rand Division of Sperry Rand Corp., 315 Park Ave. So., New York 10.

This folder contains illustrations of insulated equipment: tabulating card files, ledger tray for housing tapes to be processed, desk for housing program tapes, etc.

For more details circle No. 421 on enclosed return postal card.

Revolving Light

A catalog sheet describes and illustrates a 360-degree revolving light. This dual-color Streamliner has separate lenses, front and rear. Any combination of colors required by law may be supplied.

The light can be furnished with all red, all blue, all amber; or it may be equipped with any color combination desired, front and rear. Long and low, the Streamliner is a high-power revolving light that emits a flash from a 150 cp. bulb. It has a heavy die-cast, chrome-plated body, and a height of 6 inches, safeguarding against low doorways or obstructions. Trippe Manufacturing Co., 133 North Jefferson St., Chicago 6.

For more details circle No. 422 on enclosed return postal card.

Fire Alarm Systems

The Standard Electric Time Co., Springfield, Mass., has issued a 36-page 2-color catalog covering its line of fire alarm systems for schools, hospitals, industrial, institutional and public buildings.

Included is information on the company's "March Time," master-coded, and box-coded systems. Components and accessory equipment, including stations, detectors and signals, are described, plus typical job specifications on all systems.

For more details circle No. 423 on enclosed return postal card.

Ice-Melting Compounds

A bulletin on Ice Rem Super, ice and snow-melting chemical, is available from Speco, Inc., 7308 Associate Ave., Cleveland 9, Ohio. Contents include listing of product features and applications. Attached are lab. test reports on coverage, ice penetration and melting activity.

For more details circle No. 424 on enclosed return postal card.

Mercury Vapor Detector

Bulletin No. 0805-3 gives details on the M-S-A Mercury Vapor Detector for on-the-spot checking of dangerous concentrations. This unit is a quantitative field-type colorimetric instrument designed to indicate concentrations of mercury vapor in the range of 0 to 1.0 milligram per cubic meter.

The bulletin outlines industrial applications of the instrument and health hazards resulting from exposure to high concentrations of the contaminant. Mine Safety Appliance Co., 201 North Braddock Ave., Pittsburgh 8, Pa.

For more details circle No. 425 on enclosed return postal card.

Fork Trucks

A four-page folder (Bulletin No. SS-1726), explaining safety features in nine models of gas and liquefied petroleum gas-powered fork trucks used in hazardous operations, is available from Industrial Truck Div., Clark Equipment Co., Battle Creek, Mich.

"Clarklift" "Utilitruc" units have protective features to minimize trucks as an ignition source while handling flammable materials.

The folder covers UL-approved protective devices installed on battery, generator, muffler, air filter and electrical distribution system.

For more details circle No. 426 on enclosed return postal card.

Emergency Lights

Carpenter Manufacturing Co., 643 Bradley St., Somerville 45, Mass., has made available a catalog describing their line of emergency lights. Featured are panic lights which automatically guard against light failures; vehicle lights, including search lights, floodlights, and colored signal and warning lights for service and emergency vehicles; and other warning lights and handlights.

For more details circle No. 427 on enclosed return postal card.

Silencers

Burgess-Manning Co., 729 East Park Ave., Libertyville, Ill., is offering a bulletin describing their snubbers, which eliminate excessive noise from internal combustion engines, blowers, and turbines. Snubbers also stop pulsation and vibration in closed gas piping systems.

For more details circle No. 428 on enclosed return postal card.

Reflector Mirrors

Reflector mirrors eliminate blind corners and are useful on loading platforms and over assembly line operations. Details on these mirrors are in literature available from Lester L. Brossard Co., 540 North Michigan Ave., Chicago 11.

For more details circle No. 429 on enclosed return postal card.

Burn Spray

Foille, a product of Carbisulphoil Co., Dallas, Tex., sprays on to relieve pain of burns, sunburn, cuts, wounds, and abrasions. No swabbing is required. Foille fights infection, promotes healing is available in 3- and 10-ounce sizes.

For more details circle No. 430 on enclosed return postal card.

Tool Tester

Pow-R-Safe, Incorp., East Orange, N. J. is presenting literature on their portable tool tester. These check for open equipment ground, for faulty equipment ground, for power ground, for short circuits. The tester checks the tool in seven seconds.

For more details circle No. 431 on enclosed return postal card.

Absorbent

A pamphlet describing Oil-Spunj, Oil and grease absorbent, is now available from Canfield Oil Co., 3216 East 55 St., Ceveland 27, Ohio. Tests show the product has 50 per cent greater soluble oil retention and covers 50 per cent more floor area than comparable products.

For more details circle No. 432 on enclosed return postal card.

Gloves

Glo-Gluvs glow so they can be seen from a distance, where spot identification is a safety requisite. They can also help overhead crane operators identify ground-level workers. Signals are interpreted properly. Hands are safer. The Granet Corp., 19 Loring St., Framingham, Mass.

For more details circle No. 433 on enclosed return postal card.

Laboratory Safety

Laboratory apparatus is shown in Catalog 459. Products include safety dispensing jugs, drying tubes, check valves, and corrosion-resistant tube fittings. The Nalge Co., Incorp., Rochester 2, N. Y.

For more details circle No. 434 on enclosed return postal card.

Machine Guard

A punch press safety device removes the operator's hands from the danger zone by steel-cored cables attached to the ram of the press and to the operator's hands.

The device will continue to function even if the press repeats. There is no interference in handling of stampings. The operator can feed as fast as he can operate the press with the foot treadle. Pamphlet gives full details. Positive Safety Manufacturing Co., 4408 Perkins Ave., Cleveland 3, Ohio.

For more details circle No. 435 on enclosed return postal card.

Switches

A two-page data sheet offerd by Micro Switch provides details on the "CX" series of rain-tight, explosion-proof switches developed for chemical handling devices,

missile launching equipment, and other hazardous outdoor installations.

These switches have been UL-listed for Class I (vapor-air mixtures)—groups C and D; Class II (dust-air mixtures)—groups E, F, and G. Electrical capacity is 20 amps, 125, 250, or 460 vac.

The data sheet includes photographs, dimension drawings, characteristics, mounting information, list prices, and quantity discounts. Micro Switch Division of Minneapolis-Honeywell Regulator Co., Freeport, Ill.

For more details circle No. 436 on enclosed return postal card.

Fire Fighting Supplies

Catalog M-300 illustrates and describes company's complete line of fire equipment supplies available from a single source. All major brands are represented, including the latest developments in the fire trade. Complete with specifications, sizes, and prices. Halprin Supply Co., 1355 S. Flower St., Los Angeles 15, Calif.

For more details circle No. 437 on enclosed return postal card.

Powered Cleaning Equipment

Illustrated catalog gives specifications for plant and floor maintenance equipment, including mop trucks, floor scrubbers and vacuum units, cleaners, waxes and combination floor machines. Finnell System, Inc., 500 East St., Elkhart, Ind.

For more details circle No. 438 on enclosed return postal card.

Storage Battery Chargers

Bulletin, introducing silicon-rectifier charges for use with stand-by batteries, features a chart for determining the correct size and model for specific applications. Tabulating information on 27 models, the chart enables users to select equipment according to number of cells to be charged, output amperage and input voltage, etc. Specifications given. Electric Storage Battery Co., Exide Industrial Division, Rising Sun and Adams Ave., Philadelphia 1, Pa.

For more details circle No. 439 on enclosed return postal card.

Resilient Floor Maintenance

A 6-page bulletin, designed for reference filing, offers pointers on the proper treatment and maintenance for asphalt, linoleum, rubber vinyl and other resilient floors. Maintenance steps are illustrated. Hillyard Chemical Co., 402 N. 3rd St., St. Joseph 1, Mo.

For more details circle No. 440 on enclosed return postal card.

Foot Protection

Booklet, a source of information for the safety engineer and lecturer, describes and illustrates the development of the modern steel safety toe. Tests determining the effectiveness of these guards are included, e. g. impact and compression tests. Safety Box Toe Co., 812 Statler Bldg., Boston.

For more details circle No. 441 on enclosed return postal card.

Welder's Gloves

Data sheet illustrates reversible Welder's gloves. A single glove is designed to fit either hand. Gloves feature welded, non-exposed seams for safety. Singer Glove Mfg. Co., 860 Weed St., Chicago.

For more details circle No. 442 on enclosed return postal card.

Plastic Goggles

Brochure spotlights chippers and welders goggles, spectacles and eye shields, all of lightweight plastic. Equipment is designed to be worn over regular prescription glasses. Tinted lenses and side shields are available. Pulmosan Safety Equipment Corp., 644 Pacific St., Brooklyn 17.

For more details circle No. 443 on enclosed return postal card.

Industrial Work Gloves

Catalog presents industrial work gloves to offer protection against most major industrial hazards. A chart diagrams various types of glove patterns and cuff styles for reference. Highlighted is a program enabling safety personnel to order gloves imprinted with one of various safety messages. Riegel Textile Corp., 260 Madison Ave., New York 16.

For more details circle No. 444 on enclosed return postal card.

Ear Valves

Data Sheet describes ear valves that regulate the passage of sound. The unit obstructs and dissipates harmful energy components of loud, large volume noise, and permits hearing of ordinary conversation and audible warnings. Sigma Engineering Co., 1491 N. Vine St., Los Angeles 28.

For more details circle No. 445 on enclosed return postal card.

Safety Pliers

Safety Plier Catalog describes a safety tool, designed to protect workers fingers as well as expensive dies and other equipment. The pliers are made of an aluminum alloy which will flatten but not shatter, if accidentally dropped into the die. This tool cannot affect the die. Osborn Mfg. Corp., Warsaw, Ind.

For more details circle No. 446 on enclosed return postal card.

Bulletin Boards

Brochure outlines metal and wood frame, cork-backed and changeable letter bulletin boards. These effectively display safety messages, posters, directory notices and inter-plant communications. Units have locks to prevent tampering. A. C. Davenport & Son, Inc., 311 N. Desplaines St., Chicago.

For more details circle No. 447 on enclosed return postal card.

High Visibility Warning Flags

Data Sheet introduces a fluorescent plastic-impregnated nylon safety flag for use by truck fleets, highway departments and school safety patrols. The flag can be seen clearly at night. The fabric may be easily cleaned and will not absorb dirt or grease. Davis Emergency Equipment Co., Inc., 45 Hallack St., Newark 4, N. J.

For more details circle No. 448 on enclosed return postal card.

Revolving Warning Lights

Bulletin outlines industrial revolving warning lights to signal moving material hazards, suspended loads, open shafts. They can also be incorporated into automatic production processes to indicate start, stop, or deviation from the normal. Models are also available for automotive installation. Federal Sign and Signal Corp. 13625 S. Western Ave., Blue Island, Ill.

For more details circle No. 449 on enclosed return postal card.

Eye Wash Fountains

Brochure spotlights emergency showers and eye wash fountains. Units may help to save eyesight in event of splashing spilled chemicals and similar accidents. Eye wash fixtures also help to relieve eye fatigue due to strain, heat, smog or fumes. Haws Drinking Faucet Co., 1443 Fourth St., Berkley 10, Calif.

For more details circle No. 450 on enclosed return postal card.

Fire Retardant Paints

Brochure introduces fire retardant paint, applied like ordinary paint, which reduces fire hazards and localizes interior fires. Available in various colors, the paint may be safely washed and scrubbed without losing effectiveness. Albi Mfg. Co., Dept. NS, Rockville, Conn.

For more details circle No. 451 on enclosed return postal card.

Safety Switches for Hoists

Switch that automatically stops a hoist or crane before it's overloaded is described in Bulletin 17-E (4 pages). Shows models and attachments; also load limiting applications. W. C. Dillon & Co., Inc., 14620 Keswick St., Van Nuys, Calif.

For more details circle No. 452 on enclosed return postal card.

Uniforms

Comfortable uniforms for summer wear for plant firemen and watchmen are included in a new catalog offered by Art Barnett Uniform Co., P. O. Box 322, New Orleans 9, La. Line includes attractively-styled men's and women's wear. Sizes and prices are listed. Illustrations give you a good idea of how uniforms will look.

For more details circle No. 453 on enclosed return postal card.

Safety Ladders

An entire line of safety ladders is illustrated and described in a new catalog offered by W. W. Babcock Co., Inc., Bath, N. Y. Construction details, safety features and dimensions are listed. In addition, accessories such as spurs, shoes, jacks, and locks are included in the coverage.

For more details circle No. 454 on enclosed return postal card.

Protective Apparel

A complete and comprehensive catalog covering the largest selection of protective apparel available on the market is available from Wheeler Protective Apparel, Inc., 224 W. Huron Street, Chicago 10, Illinois. It illustrates and describes: gloves, coats, pants ,overalls, jumpers, fire entry units, finger cots, hand pads, arm and leg protectors, hip leggings, spats, knee pads, sleeves, hoods, helmets, aprons, leggings, chaps, blankets, curtains, power megaphones and many other items related to industrial protection. This catalog is so organized that it may be used as a safety handbook. The catalog is completely illustrated with photographs of every type of clothing required by the heat, abrasive or chemical industries.

For more details circle No. 455 on enclosed return postal card.

Tuffy Sling Handbook

A fully illustrated 40-page reference book that covers more than 80 subjects on Tuffy Slings and fittings is now being offered by the Union Wire Rope Corporation, 2224 Manchester Avenue, Kansas City 26, Missouri. Included in the new edition is new reference information condensed into handy chart form on sling sypes, dimensions and rated loads. In addition, the section Tuffy Sling fittings has been expanded to cover many fittings not previously shown, together with reference charts on sizes, rated loads, etc.

For more details circle No. 456 on enclosed return postal card.

Padlocks for Industrial Protection

Catalog 56, 20-pages features descriptions of padlocks to meet every need, with actual size illustrations of entire line. Special long shackle padlocks are included, as well as super security padlocks, which have an extra short shackle clearance of ½", and many others. Master Lock Co., Milwaukee 45, Wis.

For more details circle No. 457 on enclosed return postal card.

advertisers' index

A

Acro Metal Stamping Co.....129
Agency: Roy F. Cratty Agency
Air Shields, Inc.....139
Agency: Harvey & Thomas, Adv.
American Abrasive Metals Co.....129
Agency: Michel-Cather, Inc.
American Biltrite Rubber Co..... 45
Agency: Hoag & Provandie, Inc.
American Chain & Cable Co. Inc., Chain Div. 121
Agency: Reincke, Meyer & Finn, Inc.
American Chain & Cable Co. Inc., Wire Rope Sling Div. 120
Agency: Reincke, Meyer & Finn, Inc.
American Industrial Safety Equipment Co....118
Agency: Allied Advertising Agency
American Optical Co.....B. C.
Agency: Sutherland-Abbott
American Tel. & Tel. Co..... 57
Agency: N. W. Ayer & Son, Inc.
Ansul Chemical Co..... 71
Agency: The Brady Co.
Ayerst Laboratories.... 61
Agency: J. Gerald Brown, Adv.

B

Bausch & Lomb Optical Co..... 59
Agency: Wolff Assoc., Inc. Adv.
Beryllium Corp..... 72
Agency: Molesworth Associates
Bradley Washfountain Co..... 68
Agency: Kirkgasser-Drew, Advertising Agency
Brett-Guard Corp.....152
Agency: Greenwood-Kaplan, Inc.
Brossard, Lester L., Co.....141
Bullard, E. D. Co..... 6-7
Agency: Erwin, Wasey, Ruthrauff & Ryan Inc.

C

Calumet Steel Castings Corp.....152
Agency: Ross Llewellyn, Inc.
Carpenter Mfg. Co.....141
Agency: Albert Frank-Guenther Law
Chicago Eye Shield Co.....I. B. C.
Agency: Reincke, Meyer & Finn, Inc.
Columbus McKinnon Chain Corp.....131
Agency: Comstock & Co.
Coppus Engineering Co.....140
Agency: James Thomas Chirurg Co.

D

Detex Watchclock Corp..... 75
Agency: J. M. Kesslinger & Assoc.
Dow Chemical Co.....111
Agency: MacManus, John & Adams Inc.
Dow Corning Corp.....48-49
Agency: Church & Guisewite
DuPont, E. I. De Nemours & Co. Inc., Industrial and Biochemicals Dept. 67
Agency: Batten, Barton, Durstine & Osborn, Inc.
Dyma Corp. 9
Agency: The Wyman Co. Inc.

E

Economy Engineering Co.....142
Agency: Kreicker & Meloan, Inc.
Edmont Mfg. Co..... 41
Agency: Maurice Mullay, Inc.
Ellwood Safety Appliance Co.....140
Employers Mutual of Wausau.... 97
Agency: J. Walter Thompson Co.

F

Fibre Metal Products Co..... 73
Agency: The Kotula Co.
Fianell Systems, Inc.....144
Agency: Johnson, Read & Co., Inc.
Fyr-Fyter Co..... 15
Agency: Weber, Geiger & Kalat, Inc.

G

Gamewell Corp..... 51
Agency: James Thomas Chirurg Co.
Gets-A-Lite Co.....152
Agency: Read Brothers
Globe Co.....127
Agency: Ross Llewellyn Inc.
Globe Industries, Inc..... 99
Agency: Advertising & Merchandising, Inc.
Gojer, Inc..... 13
Agency: Clayman & Assoc.

H

Halperin, A. E. Co. Inc.....134
Agency: Harold Glickman Advertising
Hillyard Chemical Co..... 16
Agency: Fardon Advertising, Inc.
Holt Mfg. Co.....137
Agency: Geo. C. McNutt Advertising
Hood Rubber Co.....101
Agency: The Griswold-Eshleman Co.
Horizon Industries.....126
Agency: Co-Operative Sales System
Huntington Laboratories, Inc.....139
Agency: Bonsib Advertising Agency
Hy-Test Safety Shoes Div., International Shoe Co..... 1
Agency: Jos. E. Schmitt Inc., Adv.

I

Industrial Acoustics Co. 133
Agency: Ritter, Santord, Price & Chalek, Inc.
Industrial Products Co.....138
Agency: The Ullman Organization
Iron Age Safety Shoe Div., H. Childs & Co. 42-43
Agency: Marsteller, Rickard, Gebhardt & Reed, Inc

J

Jackson Products Div., Air Reduction Sales Co. 133
Agency: A. Hemsing Advertising
Jomac, Inc.....76-122
Agency: Gray & Rogers, Adv.
Junkin Safety Appliance Co.....136
Agency: Parson, Huff & Northlich

K

Kennedy-Ingalls, Inc. 143
Agency: Morrison-Seymour, Inc.
Kidde, Walter & Co.....123
Agency: Cunningham & Walsh Inc.

L

Lehigh Safety Shoe Co..... 3
Agency: Frederick-Clinton Co., Inc.
Lewis Instruments Inc.....132
Agency: Ellis Advertising Co.

M

Macwhyte Co..... 65
Agency: Hoffman, York, Paulson & Gerlach, Inc.
McAn Thom Safety Shoe Div.....103
Agency: Doyle, Dane & Bernbach, Inc.
Medical Supply Co..... 53
Agency: Howard H. Monk & Assoc.
Merrill Brothers.....112
Agency: Charles Jon Dalldorf Advertising
Mine Safety Appliance Co.....10-11
Agency: Ketchum, MacLeod & Grove, Inc.
Mott Corp.....124
Agency: J. D. Culea

N

National Safety Council.....44-113-114-115-116

O

Ohio Chemical & Surgical Equipment Co.... 5
Agency: Arthur Towell, Inc.

P

Pendergast, Albert Co.....128
Agency: Advertising Assoc. of Philadelphia Inc.
Practical Mfg. Co.....127
Agency: Fischbein Advertising
Prairie State Products Co.....126
Protectoseal Co.....108
Agency: Ross Llewellyn, Inc.

R

Ready Made Sign Co., Inc.....128
Agency: Chelsea Advertising Inc.
Reeves Sales Co. 143
Agency: John B. Ferguson
Renfroe, J. C. & Sons Inc.....138
Agency: Beacon, Hartman & Vollbrecht
Riegel Textile Corp.....109
Agency: W. L. Towne Co., Inc.
Rockwood Sprinkler Co.....54-55
Agency: James Thomas Chirurg Co.
Rose Mfg. Co.....135
Agency: Harold Walter Clark, Inc.

S

Safety Box Toe Co.....I. F. C.
Agency: The Church Green Co.
Safety Tower Ladder Co.....130
Agency: M. Dorsey & Associates
Scott Aviation Corp..... 69
Agency: Melvin F. Hall Advertising Agency
Seminar Films, Inc.....137
Sigma Engineering Co.....138
Agency: Ross Advertising Agency
Silver, Fred Inc.....143
Agency: Louis F. Herman
Smith, A. & Son Inc.....143
Agency: John B. Ferguson, Jr.
Standard Safety Equipment Co.....125
Agency: Presba Fellers & Presba
Standard Signs, Inc.....142
Agency: R. J. McFarlin & Co.
Stonehouse Signs, Inc. 63
Agency: Rippey, Henderson, Bucknum & Co., Advertising
Surety Rubber Co.....118
Agency: H. M. Klingensmith Co., Inc.
Surgical Mechanical Research, Inc.....136

T

Taylor, S. G., Chain Co.....135
Agency: Jones & Taylor, Inc.

U

U-C Lite Mfg. Co. 142
Agency: Merrill, McEnroe & Assoc.
U. S. Borax & Chemical Corp..... 47
Agency: Howard M. Irwin & Associates
U. S. Safety Service Co.....105
Agency: Fardon Advertising Inc.
U. S. Treasury....119

W

Wagner Sign Service Inc.....110
Agency: Wendt Advertising Agency
Watchmoket Optical Co.....132
Agency: Darrell Prutzman Assoc.
Welsh Mfg. Co.....130
Agency: Horton, Church & Goff, Inc.
Wiesman Mfg. Co.....139
Agency: Don Kemper Co. Inc.
Wilkins Co., Inc..... 74
Agency: Laux Advertising, Inc.
Willson Products Div., Ray-O-Vac Co.....107
Agency: Howard H. Monk & Associates, Inc.

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—shown in the special section has been carefully reviewed. Only new products or newsworthy improvements in existing equipment are considered eligible for this section.

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IMPORTANT—Be sure to fill in your name, organization and address in the space provided on this side of the postcard.

National Safety News
February, 1960

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Single copies of new National Safety Council employee booklets are yours for the asking. These aids are constantly being published or revised to bring your employees the latest information on how to prevent accidents. Use the Reader Service Card below to get free samples of the booklets that you think will be suitable for use in your employee training. For descriptions of these new publications see page 112.

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48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72
73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97
98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122
123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147

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301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325
326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350

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48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72
73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97
98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122
123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147

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301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325
326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350

TRADE PUBLICATIONS:

400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424
425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449

NSC EMPLOYEE BOOKLETS:

500 501 502 503 504 505 506 507 517 518 519 520 521 522 523 524 508 509 510 511 512 513 514 515 516

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Keep up-to-the-minute on all the latest advances in industrial safety products and services through the advertising pages and new safety equipment features in the NATIONAL SAFETY NEWS.

Should you want additional information or special consultation on your specific problems, don't hesitate to write to the manufacturers. They welcome your inquiries and will answer your questions without obligation.

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National Safety News, February, 1960

Designed to further simplify your Safety Glass inventory

NOW

Get

1 FRAME with

2 UNIVERSAL FEATURES...

New CESCO Polyfit Bridge

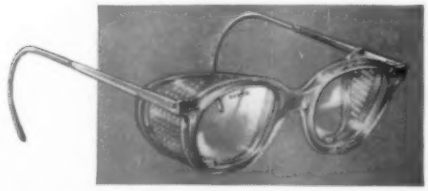
and New CESCO Interchangeable Temples

• Here's how to go all the way in simplifying inventory with a single safety glass that will fit the vast majority of your workers. New CESCO Polyfit frames have not one but two features to make them adaptable to the widest range of nose and facial contours. New Polyfit bridge design is amazingly comfortable on most individuals—thus eliminating the need to carry a large inventory of bridge sizes.

But in addition, CESCO Polyfit frames also feature gleaming nickel-silver temples which are interchangeable with other CESCO plastic frame glasses or with most safety glasses equipped with 5-barrel hinges—regardless of color. Sur-Loc pins fasten temples to frame. Tapered temples come in two styles—cable or spatula. Polyfit frames in flesh tone plastic are available with or without side shields.

- **Your choice of two sizes: No. 316 (46 x 39mm), No. 318 (48 x 41mm)**
- **Popular F7 shape lenses are removable for easy "on-the-spot" repair**

Ask your distributor to show you the New CESCO Polyfit safety glasses
He'll also be happy to introduce you to the complete line of CESCO head and eye protective equipment
There's a CESCO distributor located in most major cities



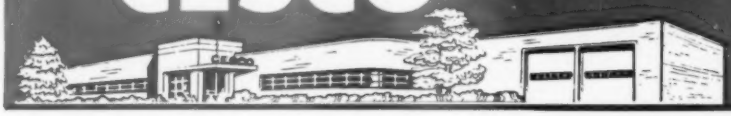
WITH SIDE SHIELDS

For total enclosure protection, CESCO Polyfit frames also come equipped with perforated plastic side shields. They offer the same outstanding features as the spectacles described above.

• Two Sizes: No. 3165 (46 x 39mm), No. 3185 (48 x 41mm)

CESCO

CESCO FOR SAFETY



CHICAGO EYE SHIELD COMPANY
2705 West Roscoe Street, Chicago 18, Illinois

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Every Worker

breathes easily when He Wears the AO "RED DEVIL" Respirator

Workers like the equipment because it's so easy to breathe through. The compact, variable density Red Devil filter is extremely efficient. Safety directors find that their safety budget dollars stretch farther because the respirator has a built-in pre-filter which lengthens service life.

The Red Devil illustrated is one of AO's inventory-reducing R2000 Series Single Filter Respirators offering 9 types of protection with one basic face piece. The R2090 Red Devil Respirator is approved by the Bureau of Mines for all dusts not significantly more toxic than lead, pneumoconiosis-producing mists and chromic acid mist.

American Optical
COMPANY
SAFETY PRODUCTS DIVISION

Safety Service Centers in Principal Cities
Always insist on Trade-marked Safety Products

AO SWEATBANDS...

"TREMENDOUS TRIFLES" that

- Help Prevent Accidents
- Add to Production Efficiency

AO Sweatbands keep workers cooler, more efficient . . . keep sweat out of eyes and off safety lenses. Prevent accidents due to blurred vision and stop foreign matter from being carried into eyes — thereby reducing eye dispensary cases. Features adjustable head strap. Several models available — 109B (shown), 108B—1" wide and "wrap around" types for helmets and face shields. Your nearest AO Safety Products Representative can supply you.

QUICK FACTS
• Cellulose Sponge — absorbs 18-20 times its weight
• 1¼" wide — weight only ¾ oz.
• Reinforced ends — all rubber adjustable strap

BE SAFE FOR SURE — WITH AO SUREGUARD PROTECTIVE EQUIPMENT

Circle Item No. BC—Reader Service Card